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## SETTLING CONTRACTS ON THE CHICAGO BOARD.

A plan is to be tried on the Chicago Board of Trade, which, it is thought, will not only revolutionize the method of settling contracts, but will also prevent corners and market manipulation.

It is proposed to form a "Traders' Agency," to which all statements of balances will be presented at the close of each day's business, accompanied by a check to margin the said balances. The promoters' prospectus says as to the object of the organization:

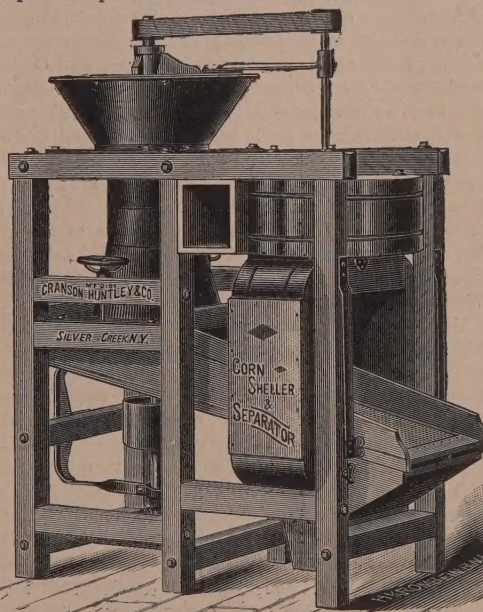
"The Traders' Agency has been organized in order to afford to members of the Chicago Board of Trade ample protection against undue risks. The promoters believe that a member of the Chicago Board of Trade should have at least the same facilities as a non-member. When the latter buys 5,000 bushels of grain and sells 5,000 bushels he is only responsible for the difference in the contract price; but a member of the Chicago Board of Trade who buys, say, 5,000 bushels of wheat at \$1 and sells it at \$1.05 may, under the present system, be compelled to invest a large sum of money as margin, and in the convulsions of the market he may sustain a loss where he ought to have a profit. There is really no justice in that. The friends of the agency have tried in vain to impress their views on the board of directors, but have finally come to the conclusion that the easiest road to conviction is through practical demonstration. Present interests are so pressing that we cannot afford to trust to the slow process of time to evolve common sense in our affairs from the prejudices clinging to old habits. We believe that the safety of the Board depends on reform in the direction we aim at. We must protect ourselves against impositions. Under the system we seek to introduce, it will be impossible to run any big deals on insufficient capital, and every trader is amply protected against ordinary as well as extraordinary risks. Absolute protection against every contingency is impossible, but our plan minimizes extraordinary risks, and makes large failures an utter impossibility. There are, of course, some objections to this, just as there were to the reform in checking trades and collecting differences, but a careful study of the subject has convinced us that the benefits of the proposed reform are even greater than in that of the clearing house. The legal aspects have been well considered, and our system contemplates the removal of all objections raised to the substitution of contracts. Under our plan every original contract will be a matter of record and kept intact by itself, and the original contract can be called for at any time, and will be in force until the maturity of the contract. There will be no substitution so far as the public is concerned. The original contracts will be held in trust, and are at all times open to the possession and literal fulfillment of both parties to the same

during the life of the contract. When the Chicago Board of Trade has become convinced of the legality and practicability of our plan the agency will gracefully retire and surrender the field to the Board itself."

It is proposed to experiment with the new plan on a small scale at first, and to take in other members as fast as its advantages are made plain to them, trades with non-members of the agency in the meantime being conducted on the old basis. In order to defray the expense of running the agency a company with a capital stock of \$20,000 is being organized. At first the agency will have a revenue of 5 cents on each settlement.

## THE DIAMOND DUSTLESS CORN SHELLER AND SEPARATOR.

The illustration in this column will not be considered inapt at the present time. It shows the Diamond Dust-



THE DIAMOND DUSTLESS CORN SHELLER AND SEPARATOR.

less Corn Sheller and Separator. This machine is strong and durable. The projections on shell and case are cast of hard, tough iron, and are chilled in casting. The corn is fed in hopper, where it is taken by a stirrer or feeder, and drawn down in the shelling part of the machine, where the corn is shelled clean from the cob and the cob scarcely broken up. Thence it passes on a shoe which tails over the cobs, the corn passing through the sieve, and falls from here to a hopper or leg, and is met by a

strong current of air, which takes out all chaff, silks and other impurities. This is drawn to the eye of the fan and blown out of the spout of same. The bearings on this machine are all in plain view. The shaking device on the shoe does away with all small belts and pulleys. The shell may be raised or lowered while the machine runs, so as to adjust it to large or small ears as may be desired.

The machine is built in first-class style and in two sizes, with a capacity respectively of 60 and 300 bushels per hour. It is made at the "Monitor Works" of Cranston, Huntley & Co., at Silver Creek, N. Y., and the manufacturers will be glad to hear from all interested in such machinery, and to answer letters of inquiry.

## BEARDLESS BARLEY.

A short time ago a representative of the Woodland (Cal.) Mail, in company with Claude V. Burke of Yolo, visited that gentleman's farm, about five miles west of Yolo, whereon is standing a magnificent quarter section of barley of the variety known as the Mexican beardless. This species was introduced into California about four years ago from Mexico. The seed was obtained by Mr. Burke from a reputable and well-known agriculturist of Stanislaus county, who had given the cereal his close study, and who recommended it above all other varieties. The seed for the 160 acres cost Mr. Burke \$800. The magnificent crop is remarkably clean, no oats or other species of grain appearing. The uniformity of growth, the apparent vigor and strength of the stock, the fullness and evenness of the heads, are features which an old farmer would remark as something unusual in such a season as this. The head of the barley has very much the appearance of "bald barley," but differs from "bald barley" in that the kernel, when threshed, is like the ordinary bearded barley, while the other threshes out more like wheat or rye. It is claimed that this variety is superior to the bearded for several reasons. It is known to stand the north winds and not thresh out, the stalk is strong, and when well ripened the heads will not droop down below the reaper blade and be lost, as is often the case with the bearded varieties. It grows a long stalk, and cattle readily feed upon the stubble. Being free of beards, it makes the best hay in the market.

There is a gentleman in New York City who is called the "Speculator de Luxe," because of his broad margins and the abundance of his paper.—Sun.

The elevators at West Superior, Wis., have shipped over 5,575,000 bushels of grain this season, and those at Duluth over 6,630,000 bushels. West Superior claims that the wheat traffic of that port for this year has been greater than that of any other city of the size in the world.



## THE SIMPSON & ROBINSON IMPROVED WAGON DUMP.

Among our illustrations in the present issue of the *AMERICAN ELEVATOR AND GRAIN TRADE* there is none which we believe will be of more interest to the general elevator and grain trade than that which represents the Simpson & Robinson Improved Wagon Dump.

The device is very simple, and we understand is easily controlled and is strongly built, having every appearance of durability, which has been, we are informed, demonstrated by actual service during the past season, giving in every instance entire satisfaction to the owner as well as to the inventor.

The originality, simplicity, compactness and general appearance of the illustration commends the Simpson & Robinson Wagon Dump to the general reader, as it is entirely different from anything of the kind ever placed before the public. There is no way by which an accident can occur to the team or wagon. It is automatic in its operations, and having been designed by a practical grain elevator builder, it is adapted to the requirements of actual service in grain elevators.

The illustration represents the platform as it appears in a weighing scale. However, the device is not confined to this arrangement, as it may be operated equally as well entirely separate from the scale.

The timbers extend lengthwise of the platform, and located at a suitable distance apart to receive the wheels of any ordinary wagon, and of sufficient width to allow the wheels of the wagon to be drawn upon them.

Each of these track beams is supplied with a segmental supporting frame. This frame is constructed of T irons, and is secured to the under side of the track beams. Rollers are mounted in suitable bearings supported upon the frame and placed in line with the segmental frame, and so arranged that each frame will bear upon two or more of the rollers.

A break beam is hinged upon the frame and extended under the segmental frame and bears against it so that as the end of the beam is moved upward the beam will be brought in contact with the segmental frame, and the friction between the two will control the movement of the track beams. As the frame travels on the rollers, a stop, or dog, is located under the end of the track beam, secured to the frame by a hinge connecting it to the break beam, so that as the break beam is raised the stop will be operated.

It will be seen that by raising the outer end of the lever the projection is also raised, which causes the stop to swing upon its pivot, releasing the upper extremity from the track beam against which it rests. Any suitable device may be used for raising the break beam.

The segments may be constructed of a radius having the center of motion a sufficient distance above the platform to completely balance the load upon the rollers and dumped by its own weight when the beams or platform are released, and a portion or the entire load may be dumped at one operation, thus giving the operator an opportunity of inspecting the character of the load before it is discharged into the pit, avoiding mixing of the grain. It is claimed for this dump that it embodies all of the requirements of a really useful article, being very simple, strong and durable, easily erected; not so liable to get out of order as many of the dumps now being used.

The important principle involved in the Simpson & Robinson Wagon Dump is its mode of operation. Being placed upon centers, it is really operated and controlled by gravitation. When a loaded wagon is placed upon the platform, the weight is above the centers, and as soon as the load is dumped into the pit the weight becomes transferred, as it were, to the under side of the circle, thus reversing the attraction of gravity and bringing the platform to its former position, when it is locked and safely secured by the device previously explained. It is stated to be no infringement upon other dumping devices.

This dump is for sale by G. W. CRANE, 239 Fourth avenue South, Minneapolis, Minn., who will be pleased to give buyers all desired information.

Manitoba seems destined to become famous for barley. The Winnipeg Board of Trade reports that the crop of last season in the province amounted to 2,000,000 bushels, and a large proportion of the grain sent to Ontario graded as No. 1, weighing 49 to 53½ pounds to the bushel, whereas the highest standard barley of Ontario weighs only 44 to 49 pounds.

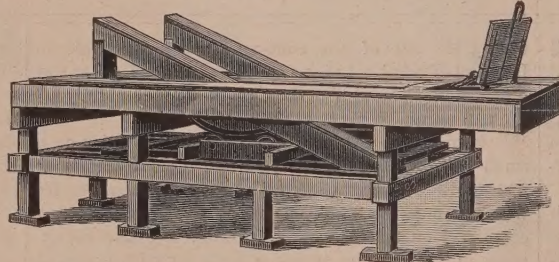
## CORNERS.

[From the *Chicago Herald*.]

"Corners have been the historical milestones of 'Change since first men began to speculate in breadstuffs. The 'corner' is but a certain form of gambling. It is a game in which men of a mercantile organization engage, and in which they use the plain products of earth—the necessary articles of daily human consumption—instead of cards or other regular gaming implements. It is, according to the world, a legitimate and honorable diversion. It is more. It is a dignified occupation, and those who are winners in the great game of chance played on the Board of Trade are recognized as mighty financiers in the marts of the world. Some are philanthropists even, and are recognized doers of good instead of evil in the community. All of these gentlemen who from time to time create 'corners' have the respect of the community. 'Old Hutch' is but one of a glittering array of financial talent who has succeeded in booming wheat up to a place in the commercial sky where the average habitue of the Board couldn't get a peep at even with a telescope.

Away off in the history of grain buying and selling in Chicago, long before such an organization as the great Board of Trade was thought of, there were quiet little local corners, infinitesimal, of course, as compared with the extensive transactions now accomplished in the trading palace down at the foot of La Salle street, but frisky little corners for all that.

Oliver Newberry and George W. Dale are the first men on record who undertook the buying and selling of food



THE SIMPSON & ROBINSON IMPROVED WAGON DUMP.

products to the denizens of the embryo Garden City. They had no incentive to work corners. Their business was the simple one of buying and selling. Even when Lake and Water streets boasted a round baker's dozen of grain houses, and the canal furnished a method of transportation far superior to that of the wagon route, the real 'corner' was a commercial manipulation quite unknown. The acute brain of the financier had not yet become sufficiently subtle and polished to make it a reality. Orrington Lunt was the first gentleman who operated anything that even approximated a 'corner.' Mr. Lunt's books show that speculation really became so wild and excited that he bought up all the wheat in the vicinity in 1846, and sold it in a lump, 50,000 bushels to New York dealers. It was regarded as the most remarkable and stupendous of transactions. Had the world then known of the late Mr. Vanderbilt, doubtless Chicago would have taken pleasure in dubbing Orrington Lunt the Vanderbilt of the West instead of fixing that title upon Phil Armour.

Up to the time of the war the 'corner,' with all its brilliant possibilities, did not become a recognized feature of the Board of Trade. Previous to that time the two heaviest speculators the Board ever knew were Thomas Richmond and Charles Walker, a Baptist preacher, who left the pulpit to stand in the grain pit.

But when the North and South began to quarrel, and civil warfare became a certainty, then a wild fever of speculation broke out on 'Change. Brothers in trade arrayed themselves against each other as brothers in battle stood foes. Not only were corners run in cereals and pork, but in whisky, and gold itself became one of the things in which speculators gambled. No one person towered above the other as a peculiarly gifted cornerer. The 'corners' in reality were 'squeezes,' and somebody squeezed everybody else. In 1863 frost and the chinch bug combine! succeeded in creating a condition of things that closely resembled a 'corner' in effect. The most noted squeezes of this time were J. M. Boyd, N. F. Badger, Henry Greenebaum and E. B. Stiles of Dixon.

New York enjoyed plenty of corners in this turbulent epoch. Every little while some clique there succeeded in locking up all the gold, and the government was thereby compelled to throw out some additional millions upon the

market. Speculation became rampant during the early years of the war owing to the unprecedented opportunities for gambling afforded. During those days was the modern 'corner' born. Then did the righteous dealer begin to appreciate the magnitude of methods that enabled him to get the best of his neighbors and leave them in a hole.

Perhaps the first 'corner' that attracted general attention was one operated by Spruance, Preston & Co. in June, 1866. There was only 500,000 bushels of oats in store at the time. These gentlemen bought it up. Chicago then governed the Buffalo market. Mr. Preston took his way innocently to that town, and sold all the oats, while Mr. Spruance held down the Chicago market. When the grain was loaded on the vessels, the amount was found to be 150,000 bushels short. In direct Saxon, the elevator men had overdrawn their receipts, and they settled up with the firm by purchasing at a considerably higher figure than they had sold.

C. B. Goodyear ran a corner in corn in 1867, out of which he made so much money that he built a block of stores on West Madison street, and gave \$30,000 to the Baptist Theological Seminary.

The chief corner of 1868 was a clique affair, and occurred just before Christmas.

The most sensational 'corner' in the annals of the Board was 'Jack' Sturges' corn deal in 1874. Unto this day do bulls and bears alike look back upon 'Jack' as the most daring operator ever known on 'Change. B. F. Allen was interested with him in this manipulation that turned the Board over until it was convulsed. After figuring out that some 9,000,000 bushels of corn would be handled in this year, Mr. Sturges formed a clique into which he brought shippers from Iowa to Liverpool. He bought July options in May, and took all the cash corn as soon as it arrived. On one occasion he drew a draft for \$3,000,000 for grain shipped to Jesse Hoyt & Co. His corner culminated July 31. Owing to Mr. Allen's indiscreet confidence in a friend, B. F. Murphy, the tide of prosperity was turned against 'Jack' and his coterie soon after. Instead of the 9,000,000 bushels they had calculated upon, they were forced to receive 18,000,000. Then they began to unload in New York, and here they found themselves no longer in control of the market. The Board

arose in wrath against daring 'Jack' Sturges, and expelled him. He brought suit in the courts for reinstatement. After three years' litigation the members, wearied of the affair and with their anger somewhat cooled by time, dropped the matter and allowed him to keep his membership. He continued a big operator until 1877, when he got his first overthrow and disappeared from the Board.

When William Young, Peter McGeoch and P. D. Armour came down from Milwaukee they proceeded to set up individual corners of their own. By a 'corner' in pork Armour & Co. became the greatest packers in the world. Armour's first deal on the Board in 1875 was about the size of a 'squeeze,' but it gave him prestige. Peter McGeoch ran a 'corner' in 1878 that cut a wide swath. The Milwaukee grain market shows the mark of it to this day. He cleared \$300,000 out of it, paid off a \$40,000 mortgage, and bought up the most of the Milwaukee Street Car Railway. Armour and Plankenton made \$500,000 apiece out of McGeoch's corner, and Alexander Mitchell took \$200,000 as his share. J. K. Fisher ran a clever 'corner' this year, too.

In 1880-'81 James R. Keene undertook to manipulate a corner, and dropped something over \$1,500,000; Jesse Hoyt & Co. of New York lost as much, and failed. Keene hasn't often been seen on 'Change since. Fowler Bros. came into prominence in 1883 in the big lard deal, when more was delivered to Peter McGeoch than he could handle, and he refused to accept on the mere plea that their goods were adulterated. No secret is it that all lard manufacturers adulterate the fat to some extent, but the fact had never been turned to advantage before. However, Peter's action took upon itself the shades of disadvantage, for Liverpool refused to accept Chicago's lard at any price, and the stigma of impurity is still attached to it.

The notorious corner of June, 1887, when a Cincinnati combination tried to break the market, is still fresh in the mind of the public. P. D. Armour came to the rescue of the Board, bought up all the cash wheat, and saved it from demoralization. Mr. Wiltshire, who came up from Cincinnati with some \$300,000 in his gripsack with which to buy up the Board, went home without even his traveling bag. Mr. Harper, as the reward for his participation in this 'corner,' went to the penitentiary.





### Issued on October 16, 1888.

**FASTENING FOR BELTS.**—James M. Whittemore, West Troy, N. Y., assignor of one-half to George S. Prindle and Philip G. Russell, Washington, D. C. (No model.) No. 391,103. Serial No. 253,003. Filed Oct. 21, 1887.

**CORN-HUSKING MACHINE.**—Wm. M. McDougall, East Orange, N. J. (No model.) No. 391,172. Serial No. 242,625. Filed June 27, 1887.

**ELEVATOR BOLT.**—Frederick H. C. Mey, Buffalo, N. Y. (No model.) No. 391,061. Serial No. 264,745. Filed Feb. 21, 1888.

**AUTOMATIC GRAIN MEASURE.**—Thomas P. Peasley, Downs, Ill. (No model.) No. 391,072. Serial No. 263,300. Filed Feb. 7, 1888.

### Issued on October 23, 1888.

**DRIVE CHAIN.**—Fred Eckstein, Jr., Cincinnati, Ohio. (Model.) No. 391,591. Serial No. 207,772. Filed July 12, 1886.

**CONVEYOR.**—Daniel M. Maxon, Bay City, Mich., assignor of one-half to James Griffin, same place. (No model.) No. 391,756. Serial No. 274,350. Filed May 19, 1888.

**APPARATUS FOR CLEANING CORN OR OTHER GRAIN.**—Louis McMurray, Baltimore, Md. (No model.) No. 391,482. Serial No. 276,064. Filed June 4, 1888.

**SEED-COTTON CLEANER.**—John R. Hopkins, Norcross, Ga. (No model.) No. 391,744. Serial No. 245,284. Filed July 25, 1887.

**GRINDING MILL.**—Peter T. Coffield, New Carlisle, assignor of one-half to Richard H. Rogers, Springfield, Ohio. (No model.) No. 391,689. Serial No. 286,287. Filed Jan. 28, 1887. Renewed Sept. 24, 1888.

**GRAIN WEIGHING MACHINE.**—Daniel Wilde, Washington, Iowa. (No model.) No. 391,570. Serial No. 273,579. Filed May 11, 1888.

### Issued October 30, 1888.

**BALING PRESS.**—Allen Swab, Elizabeth, Pa. (No model.) No. 392,081. Serial No. 378,239. Filed June 26, 1888.

**BALING PRESS.**—Andrew Wickey, Quincy, Ill. (No model.) No. 392,085. Serial No. 282,758. Filed Nov. 5, 1887. Renewed Aug. 14, 1888.

**CANAL LOCK.**—Albert L. Blackman, Nashville, Tenn. (No model.) No. 392,002. Serial No. 261,283. Filed Jan. 19, 1888. Patented in England Dec. 9, 1887, No. 16,975; in France Dec. 9, 1887, No. 187,492, and in Germany Dec. 9, 1887, No. 8,179.

**GRAIN DISTRIBUTER.**—Jesse H. Fromanhauser, Minneapolis, Minn., assignor of two-thirds to Barnett & Record, same place. (No model.) No. 392,171. Serial No. 279,035. Filed July 5, 1888.

**SIGNALING ATTACHMENT FOR WEIGHING SCALES.**—Edward H. Amet, Chicago, Ill., assignor to himself and Herbert A. Streeter, same place. (No model.) No. 391,831. Serial No. 265,966. Filed March 2, 1888.

**SEPARATOR.**—George Jones, Chicago, Ill., assignor to himself and Alfred Swadkins, same place. (No model.) No. 391,850. Serial No. 262,888. Filed Feb. 3, 1888.

**VESSEL TRIMMER.**—Wm. G. Travers, Conneaut, Ohio. (No model.) No. 391,928. Serial No. 273,028. Filed May 7, 1888.

**AUTOMATIC GRAIN WEIGHER.**—Elias Fiscus, Audubon, Iowa. (No model.) No. 391,888. Serial No. 277,916. Filed June 22, 1888.

### Issued November 6, 1888.

**COMBINED CAR STARTER AND BRAKE.**—Charles Kieser, Baltimore, Md. (No model.) No. 392,345. Serial No. 264,785. Filed Feb. 21, 1888.

**ELEVATOR BUCKET.**—Wm. G. Avery, Cleveland, Ohio. (Model.) No. 392,532. Serial No. 235,370. Filed April 19, 1887.

**ELEVATOR FOR GRAIN, WATER, ETC.**—Michael Garland, Bay City, Mich. (No model.) No. 392,421. Serial No. 242,119. Filed June 22, 1887.

**GRAIN MEASURING MACHINE.**—Beaumont Parker, Highlands, Kan., assignor of one-half to Lewis C. Park-

er, Kansas City, Mo. (No model.) No. 392,452. Serial No. 270,910. Filed April 17, 1888.

**GRAIN MEASURING, REGISTERING AND BAGGING MACHINE.**—George R. Kendrick, Bucyrus, Ohio. (No model.) No. 392,344. Serial No. 264,347. Filed Feb. 17, 1888.

**AUTOMATIC SCALE FOR WEIGHING CARS AND RECORDING THE WEIGHTS.**—Edward H. Amet, Chicago, Ill., assignor to Herbert A. Streeter, same place. (No model.) No. 392,531. Serial No. 265,965. Filed March 2, 1888.

## A PROGRESSIVE ELEVATOR COMPANY AND ITS EXTENSIVE OPERATIONS.

From information recently received we believe the Northwestern Elevator Company of Minneapolis are entitled to the credit of building, during the season of 1888, the greatest number of grain elevators ever built during a single season by any one elevator company, and in the shortest possible time. The list of items and amount of material used in construction of these elevators will give the reader something of an idea of the magnitude of the work performed and the necessary capital involved to conduct such an enormous business. During the season of 1887 the Northwestern Elevator Company built twenty-seven complete grain elevators, but during the present season they have built thirty-two elevators of 40,000 bushels' capacity each, thus increasing their country storage capacity 1,280,000 bushels, and making a total number of ninety-three elevators in the country, and a storage capacity of 4,000,000 bushels. To this storage capacity is to be added their terminal elevator, located at Minnesota Transfer, which of itself has a storage capacity of 1,000,000 bushels, thus making a total of 5,000,000 bushels' storage capacity owned and controlled by this company alone. Below we give a list of the principal items used in the construction of the thirty-two elevators this season, and while we have the figures and facts at hand covering the cost of each house, we are requested for obvious reasons, not to publish them, but it is permissible to say that to build, equip and complete these houses, it has required, in solid cash, a round \$100,000 to accomplish what was undertaken a little more than three months ago, and in this connection we are at liberty to state from facts as shown by the records in the general office of the company, the cost of each house does not exceed 10 cents per bushel, which certainly is evidence of excellent management, indicating no little amount of personal attention to details on the part of the general officers of the company. It has required to build their houses this season the following amount of material:

2,496,000 feet of lumber.  
1,184,000 shingles.  
200 carloads of freight.  
1,000 kegs of nails.  
32 office stoves.  
1,600 gallons paint.  
64 horses.  
64 sets of harness.  
32 5-ton Chicago scales.  
32 60 bushel hopper scales.  
32 100-bushel shipping scales.  
32 Paige Patent Horse Powers.  
36,000 pounds of machinery.  
3,000 feet of link belting.  
200 sprocket wheels.  
3,000 feet of wire rope.  
700 feet of shafting.  
3,000 feet of flushing iron.  
4,000 feet of belting.  
3,500 elevator buckets.  
12,000 elevator bolts.  
25 sheet iron boot tanks.  
32 wheat cleaners.  
32 wheat graders.  
200 carpenters and painters.

It is proper to say that the management have also this year added warehouse annexes to forty of their elevators, thus beyond any possible doubt securing the total storage capacity claimed for their country houses. The new houses built this season are located on the St. P. M. & M. Ry. and on the following divisions: Willmar & Sloux Falls, Watertown & Huron Extension and Cando Branch, mostly in Dakota.

As to the amount of cash required to operate a line of elevators such as owned by the Northwestern Elevator

Company, something of an idea may be formed when it is a known fact that the daily cash remittance to their agents in the country averages from \$50,000 to \$60,000, and some days runs as high as \$100,000. This is of daily occurrence during the crop season, which continues at least six months of the year. These remittances are made in currency for the convenience of their agents and carried by the express company, whose account for charges amounts to \$5,000 annually. The item of telegraph costing \$9,000 yearly, and postage stamps costing \$4,500 for a single year's business, will enable one to imagine something of the amount of labor and expense involved to operate ninety-three country elevators and handle 6,000,000 bushels of wheat annually.

The Northwestern Elevator Company is considered as one of the most progressive elevator companies in the Northwest. Having started business in a comparatively small way, the business has grown to its present magnitude through its own merits and good business principles which are to be seen in every department of its extensive business.

We are under obligations to G. W. Crane, 239 Fourth Avenue South, Minneapolis, Minn., for figures and facts embodied in the above article, and believe them to be accurate, as he had the furnishing of the machinery and supplies for the entire plants.

## THE WORLD'S WHEAT CROP OF 1888.

The Paris *Echo Agricole* presents the following estimate of the production, exports and imports of wheat of the world for the current crop year:

Countries.	Probable production, bushels.	Probable imports, bushels.	Probable exports, bushels.
Russia.....	246,960,000		109,760,000
France.....	244,216,000	68,600,000	
Austria-Hungary.....	156,408,000		16,464,000
Spain.....	115,088,000	6,860,000	
Italy.....	101,528,000	38,418,000	
Germany.....	82,520,000	30,184,000	
United Kingdom.....	62,632,000	150,920,000	
Turkey.....	39,046,000		5,495,200
Roumania.....	21,952,000		13,720,000
Bulgaria.....	13,720,000	13,720,000	
Portugal.....	6,860,000	1,920,000	
Greece.....	4,664,000	2,744,000	
Servia.....	4,390,400		1,372,000
Holland.....	4,116,000	12,348,000	
Denmark.....	3,567,200		
Sweden and Norway..	2,744,000	2,744,000	
Switzerland.....	1,646,400	11,792,000	
Totals, bushels....	1,111,868,000	340,250,000	146,811,200
United States & Canada	409,320,000		96,040,000
Chili and Arg. Repub..	27,440,000		10,983,200
Totals.....	1,548,628,000	340,250,000	253,834,400
India.....	260,680,000		27,440,900
Asia Minor.....	37,044,000		2,744,900
Persia.....	21,952,000		2,744,000
Syria.....	13,720,000		1,372,000
S. E. Asia.....	8,252,000		1,372,000
Totals.....	1,906,256,000	340,250,000	289,506,400
Australia.....	38,416,000		12,348,000
Algeria.....	19,208,000		2,744,000
Egypt.....	13,720,000		4,116,000
Grand totals.....	1,977,600,000	340,250,000	308,714,400

The deficit is only 81,535,600 bushels, according to the foregoing statement. An English estimate makes the deficit 71,618,400 bushels. The continent of Europe in 1887 had a good wheat crop, both as regards quantity and quality. The visible and invisible stocks Aug. 1, 1888, were in excess of any deficit yet established. There was in France alone, exclusive of flour, on Aug. 1, 1888, 32,728,000 bushels of wheat, according to the author of these French estimates.

During October San Francisco and Portland, Ore., exported 324,124 more bushels of wheat than Boston, New York, Philadelphia and New Orleans combined.

The corn-growers of Louisiana look with envious eyes upon the large yield of the corn fields of the North and West, and an effort is being made to smother the old cry that varieties which give such immense yields in the North will not succeed in Louisiana. The Creole, or Louisiana corn, is from fifteen to twenty feet high, and as a rule each stalk will not bear more than one small ear. The grain is yellow and so hard that in many cases animals are unable to digest it, but it is safe from the attacks of weevil which destroy so much of the softer grained varieties in the North and West. It has been stated on good authority that any of the Northern varieties can be raised in Louisiana if planted at the right time and properly cultivated.



## THE HOSFORD SYSTEM OF TRADING.

The necessity of a change in the present system of trading on the Board of Trade is obtruding itself forcibly upon the membership. When large commissions were paid and the general public were imbued with the spirit of speculation, commission merchants had no complaint to make. Their pay was commensurate with the risk they took. Now that commissions have been whittled down, and there is less outside general business than formerly, the need of a modification of the prevailing system is felt, in order that trade may be attracted here, and the risk of doing the business be minimized.

Legislation on the Board of Trade for years has been restrictive in its tendency. Hours of trading have been gradually shortened, trading after hours has been discouraged in every possible way, privilege dealing has been practically broken up, and an iron-clad commission rule fixing rates of pay so small that nobody can cut rates and live has been established. All this is restrictive of trade. Something should now be done in the other direction to broaden out the trade and induce greater activity in business on the Board.

If the Hosford system of trading could be successfully introduced the trade would be enormously increased, and the risk of handling it reduced to a minimum. A correspondent recently wrote *Daily Business* as follows:

"The question is asked on all sides, what are the peculiarly desirable features of this proposed new system, and what are the benefits claimed for it as compared with the system which we have followed so long?"

"1. I answer, it accomplishes what we now daily endeavor but fail to do, viz.: It systematically offsets all intermediate contracts and margins to the market price the comparatively few that remain.

"2. Instead of accumulating an enormous line of open contracts, which serve no good purpose, and forcing an enormous amount of money to lie idle in the banks to secure the same, it relieves the trade entirely of all risk upon such contracts, and retains the money in the active business of the Board.

"3. I believe, also, that it makes extortionate manipulations less possible by releasing the intermediate and innocent party (who is frequently the largest sufferer), and renders it impossible for the pugnacious bull and the stubborn bear to tie up the available capital of those who are engaged in a legitimate commission business, and fight out their battle over our shoulders."

This system is not experimental. It has been in successful operation on the Consolidated and Petroleum Exchange of New York and the Chicago Open Board for several years, and considerable trading was done under it without friction during the early days of the life of the lamented Board of Trade Stock Exchange.

If the plan will not stand the test of law, it should not be touched. This is a case, however, in which the Board of Trade cannot afford to take chances. It should have the advantage of the very best legal advice that money can buy. To that end we suggest that the question of the legality of the Hosford system, and also that of the plan proposed by Mr. Robert Lindblom, be submitted to a commission consisting of Wm. C. Goudy, John N. Jewett and Judge Beckwith. It is barely possible that Judge Drummond might consent to pass on the law points, or that in case either of the three gentlemen first named could not serve, that Senator Joseph E. McDonald of Indiana, could be secured.—*Chicago Daily Business*.

A bushel of corn makes four gallons of whisky. It sells for \$16 at retail. The government gets \$3 60, the farmer 40 cents, the railroad \$1, the manufacturer \$4, the vender \$7, and the drinker all that is left.

The *Mail of La Conner*, Wash. Ty., reports the following marvelous yield of oats of land near that place: One tract of 12½ acres yielded 156½ bushels per acre, and another tract of 20 acres gave a yield of about 153 bushels per acre. It is not certain, but it is supposed that during a lull in the campaign the political reporter was set to writing up the crop reports.

## BIG FARMS IN THE NORTHWEST.

Red River valley, in North Dakota, most undoubtedly has the largest wheat farms east of the Rockies, and none of them are very old. In 1873 when the Northern Pacific seemed to be a failure and its bonds would hardly bring ten cents on the dollar, G. N. Cass, president of the road, and B. P. Cheeney, one of its directors, engaged Oliver Dalrymple, then operating a large farm in Washington county, Minn., to take charge of a farm in the Red River valley, to be opened by them and him jointly. For a distance of 200 miles north and south there was not a single farm, and there were only few settlements between Fargo and Lake Superior, a distance of 452 miles. The land was appraised at \$5 an acre, but as the N. P. R. R. bonds were convertible at par into land, it only cost 50 cents an acre.

Cass, Cheeney and Dalrymple purchased a solid piece of 8,000 acres near what is now Casselton. They paid for the land which they got of the railroad company with the discredited bonds, and for the Government land with Red

frosts and the yield will fall below the average, but the price per bushel will greatly exceed the average price received.

Besides the Dalrymple farms there are many other large farms in the vicinity of Casselton, Wheatland and Mapleton, that have an acreage that runs up into the thousands. Congressman L. F. Watson, of Pennsylvania has 22,744 acres, partly improved, near Wheatland, the Amenias Sharon Land Company owns 15,890 acres in the neighborhood of Casselton, and near by Stephen Gardner has a farm of 12,800 acres. Among other large farms, Wm. Dunlap has one of 5,378 acres, in the vicinity of Wahpeton; Addison Leech has one of 6,196 acres near Davenport; W. and D. Yuel have one of 7,372 acres, and J. G. Smith has tracts aggregating 11,495 acres.

## CURIOUS FINDS OF WHEAT AND CORN.

A wonderful and valuable find has been made near Yuma, Arizona, says the *Nevada Enterprise*. In a cut twelve feet in depth, on the Mohawk Canal now in process of construction, was found six weeks ago, an "ollo" or earthen jar. The ollo was in the shape of a large bottle, and its narrow neck was sealed up with a thick coating of mesquite gum, while the outside of the vessel was painted with very remarkable and fantastically drawn design drawings. Nothing was thought of the ollo until one day when Mr. George Norton picked it up and noticed its peculiar appearance. Upon breaking the sealed top it was found to be filled with corn, weighing about thirty pounds. The corn was snow white, and the kernels large, yet extremely tender. The corn was planted in a tract of nearly ten acres, and just thirty-five days from the date of planting, roasting ears were taken from the field. The corn is very sweet and produced an immense crop. The plants did not grow over two and one-half feet high, and bore from three to six large-sized, well-filled ears of corn. The *Yuma Sentinel* says: "All who have seen the corn on the Mohawk Canal speak of the big yield that this strangely found seed gave. Mr. Norton has topped the corn and will use all that matures to seed a large patch of corn land next season."

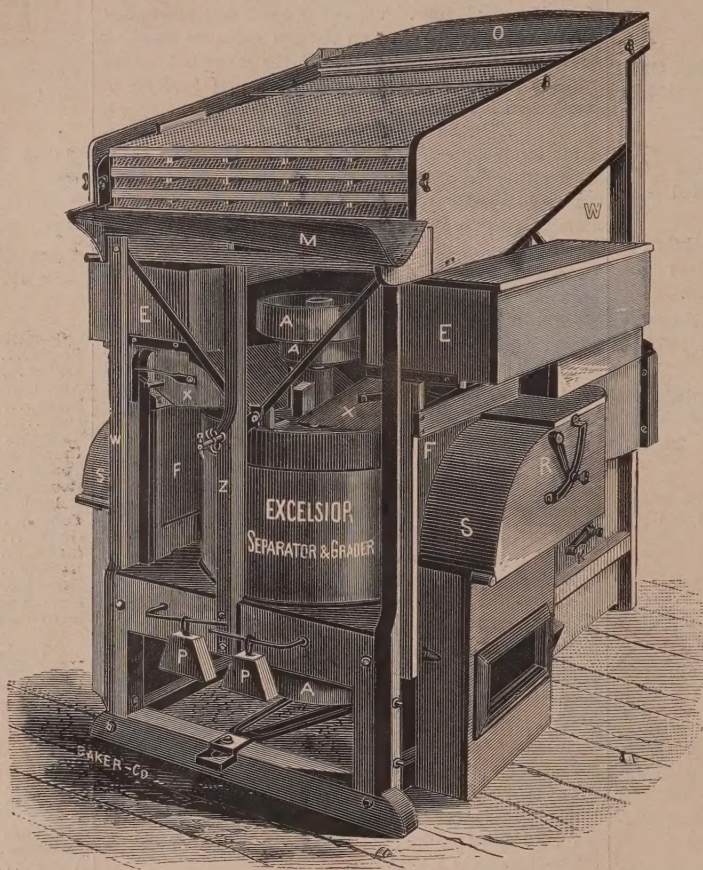
About fifteen years ago, at the Mormon settlement of St. George, in Lincoln county, Southern Nevada, a similar find was made by Amasa Potter, a Mormon Bishop. Bishop Potter had the curiosity to open an Indian mound near his place. In the mound were found human bones of such great age that they fell to pieces on being exposed to the air. With the remains were arrow heads of obsidian, knives of the same, and some fragments of pottery in the bottom of the mound, the foundation of which was solid rock. In this rock had

been excavated a square pit two feet wide, three feet long and about a yard in depth. Flat stones formed a covering for the pit, and removing them was found what appeared to be a mixture of bran and flour—pounded wheat. This was light and dry, but on digging into it there was found over a peck of beautiful whole grains of wheat.

Bishop Potter sowed the wheat and it grew well. It had a very large and unusually white grain. The wheat was found superior to any that had before been cultivated in that region, and well adapted to the climate and soil. In the same vicinity are many similar mounds and they to this day remain unopened. It is probable that in some of these might be found seeds and bulbs of various kinds that would prove of value to the white farmers of the Great Basin region."

It is estimated that the farmers of Manitoba and the Northwest will receive \$1,950,000 more for this year's crop than they did for last.

The quarterly report of the Kansas State Board of Agriculture, just issued, shows the total product of winter and spring wheat this year to be 16,720,719 bushels, as compared with 9,278,000 bushels last year. It is the heaviest yield since 1884. The total product of corn this year is given as 168,724,087 bushels—more than double the yield of last year and the largest since 1885. The total product of oats is given as 54,665,055 bushels, the heaviest yield in the history of the state.



THE EXCELSIOR PATENT OAT CLIPPER.

Lake Indian scrip. A portion of this was broken in 1875 and a crop was raised the following year. Additions have been made until now the Dalrymple farms contain 60,000 acres, 35,000 of which are in wheat, and on part of this thirteen successive crops have been raised. At the time this vast tract was opened no trees were visible, stones and sticks were seldom seen; there were no hills, naught but a level prairie on what, centuries ago must have been a great lake that was filled with drift and wash from the surrounding country. This drift is from 50 to 125 feet deep and on top there is a rich black soil 1½ to 3 feet deep.

The Dalrymple farms, of which Oliver Dalrymple is manager and principal owner, are divided into sections of 6,000 acres each, and these are subdivided into farms of about 2,000 acres each. Each farm is well furnished with horses, farming implements and buildings, and is in charge of a foreman who receives his orders from the manager by telephone. The wheat, which is threshed from the shock, is immediately put in cars and shipped to Duluth or Minneapolis, making about two train loads daily. Twenty or thirty reapers follow one another about the fields, cutting hundreds of acres daily on a single subdivision. The thresher follows these and in turn is followed by twenty or thirty plows preparing the ground for the next year's crop. The average yield for the first twelve years was eighteen bushels per acre, and the average price received for the crop was 75 cents. This year's crop is the first that has been injured by the summer



## OAT CLIPPING.

Clipped and polished oats have come to be in such demand for fancy stock feeding, as well as for export, that the progressive grain dealer is looking about for a machine that will put his grain in proper condition to meet the requirements of the times and enable him to compete with his neighbors. According to the information we have, we believe there is but one oat clipper proper made in this, or for that matter, in any other country. We refer to the "Excelsior." There are some "smutters" used with partial success in clipping oats, but these break the grain more or less. They require a great deal of power, and their capacity is limited to from 175 to 200 bushels per hour at the outside.

The largest size of the "Excelsior"—No. 8, the manufacturers claim, will clip and polish 500 bushels of No. 2 oats per hour, and will require only 10-horse power to do it. The capacity on wet or damp and rotten oats is of course less. We believe this machine to be of great value to grain men, and one that will soon become a necessity. We therefore take pleasure in illustrating it in this issue of our paper.

The illustration on the opposite page gives a perspective view of the Excelsior Patent Oat Clipper, a sectional view of which is given on this page. The perspective view does not show the hopper and rear suction trunk, which may be seen, however, in the sectional view.

Referring to the sectional view, the operation is as follows: As the oats fall through the hopper down onto the sieves, they are subjected to a suction current in the trunk *S*, which draws directly through the grain, removing dust, chaff, straws, etc., and these are discharged by the exhaust fan, into a dust room or out of doors. Being thus relieved of the foul stuff, the sieves *O* are enabled to perform their function of removing dirt, stones, nails and other objectionable matter from the oats, in the best possible manner. The oats pass through the sieves and fall upon a zinc cockle screen, which screens out the fine dirt, sand, cockle, etc., and conveys the cleaned oats into the separating trunks *EE*, where whatever may remain of dust, chaff and other light stuff, are sucked out and discharged by the exhaust fan. Passing through the suction trunks *EE*, the grain is discharged directly into the clipping drum. After being clipped, the oats are discharged from the clipping drum into the main suction trunk, where they are subjected to a strong suction, which not only removes all the dust, chaff, etc., created by the clipping process, but also sucks out light and imperfect oats, if it is desirable to do so. This light stuff is all drawn into the separating chambers *OO*, where a separation of the dust, chaff, etc., from the light oats, is made, the latter being spouted out at the side of the machine, while the dust, etc., are discharged by the exhaust fan in the same way as the chaff, straws, etc., before mentioned. The clipped oats pass from the machine clean, bright and pure.

The clipping cylinder is constructed with notched and corrugated wallowers, which revolve in a mass of grain, which is held to them by a corrugated case or jacket, thus producing friction of grain upon grain. The oats can be held in the clipping drum by the use of the weights *PP* (see Fig. 1) until they are clipped as the operator may desire. The moving of the weights *PP* on the notched bars will shut the valves, and the drum will fill until the weight of the grain will cause the valves to open, and thus discharge the grain as fast as it enters the drum. If closer clipping is desired, this is accomplished by moving the weights *PP* nearer to the ends of the notched bars.

This being an oat clipper, separator and grader combined, it is perfectly adapted to cleaning, separating and grading all kinds of grain, without running the grain through the cylinder. Thus as the grain is discharged from the cockle screen, as described above, it passes through the separating trunks *EE* directly into the main suction trunk, above mentioned, where the light and shrunken grain, cheat, etc., are sucked out from the sound grain and conveyed by the same air current into the separating and grading chambers *OO*, where two distinct separations of this light grain are made. The heaviest or No. 2 being deposited in (and passing by spout from) the first, or left-hand chamber *T*, the lighter stuff being deposited in the second chamber *T*. The sound

grain passes from the machine perfectly cleaned, free from all impurities. The suction can be gauged by the valve *D*, so that any quality or degree of separation of light grain that may be desired, can be accomplished.

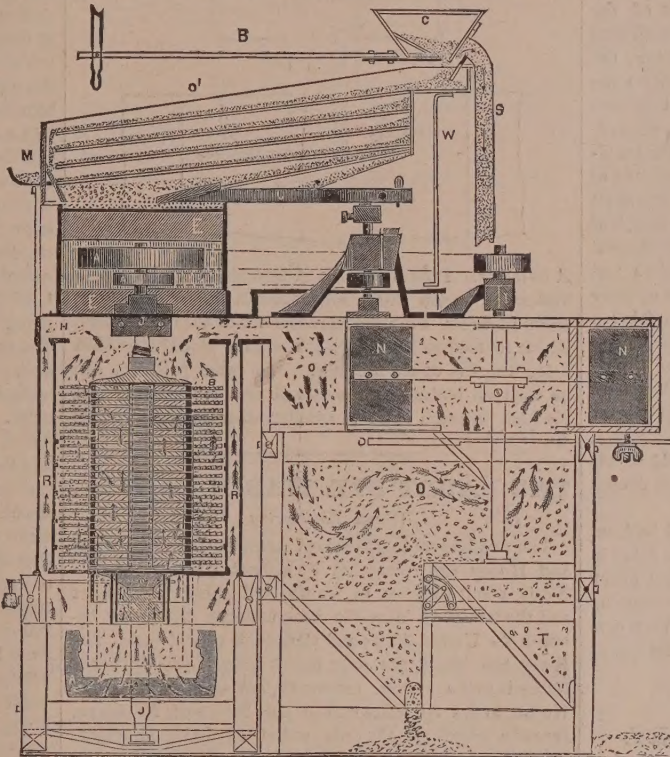
Three sizes of this machine are made. It is manufactured by the well-known E. H. PEASE MFG. Co. of Racine, Wis., who will take pleasure in giving our readers any further information that may be desired.

## BUILDING OF ELEVATORS.

## SIXTH PAPER.

BY R. JAMES ABERNATHY.

We will close this series of articles by taking a glance at an elevator of much greater proportions than any heretofore referred to, and for a greater variety of purposes. Such are mostly found in the large distributing centers, but occasionally outside. It is not necessary to stipulate the size of it on the ground, the height or the storage capacity; it is only the general plan involved and



SECTIONAL VIEW OF THE EXCELSIOR OAT CLIPPER.

some of the details that are required to throw all the needed light on the subject. Such an elevator may or may not provide for shelling corn, depending altogether upon where it is located. The elevators in all of the large centers, other than St. Louis, in the Southwest, are provided for shelling corn, and some of them still do a good business in that line; the ear corn being hauled in car lots from corn growing districts where there are no power elevators.

With such houses as are now being considered, the corn shelling should be done independent of the main building. For that purpose a small building should be erected at the end of the main building next to the engine room, but far enough away to admit of a side track running between the two buildings, from which the corn can be shoveled directly from the cars into the sheller. In the present case all shelling will be done from cars, there being no local or wagon trade. The sheller must be arranged in the building substantially as heretofore indicated, and so that the corn will roll freely from car into it. That can be easily done, as the building should be no larger than is necessary for locating the machinery, and that will depend on the size of the machines, or rather on the size of the corn-cleaner, as the largest of shellers does not occupy any great amount of space. Cleaners, however, of large capacity, are cumbersome and require considerable room.

The corn house should run well up in the air, so that the cobs can be spouted to the engine room or beyond. However, that may prove impracticable in some instances, and in consequence a drag belt for the purpose of carrying the cobs away from the cleaner will have to be used; and, indeed, it is not certain but that a drag should be provided in all cases, as in times of a great corn-shelling

rush, the cobs cannot be kept out of the way unless there is a means for carrying them some distance from the building. The power for driving corn-house machinery can be transmitted by belt from the main building above the top of the cars. The shelled corn must be carried across from the corn-house to the main building in a conveyor and discharged into the foot stand of elevators, carried up, run through a separator, from there into a hopper-scale, and from there into a bin, where it remains until shipped out.

The advantages of giving corn the double cleaning here indicated, are obvious. A loaded down rolling screen corn cleaner, and they are nearly always loaded down in large houses, while separating the corn from the cobs, very well does not always otherwise clean it as it should. And then, too, if corn happens to be damp, even wet, as it often is, the rolling screen cleaner cannot begin to do it full justice, either in separating from it the silks and chaff, or in drying it. On the contrary, if a separator can be used after the rolling screen, both objects are obtained. The corn is better cleaned and more thoroughly dried.

An elevator such as is now being described, should be wide enough to allow two side-tracks to run through it lengthways; the tracks close to each side of the building and room enough between the tracks for an engine and boiler-house, at least eighteen feet wide and as long as may be necessary to accommodate the engine and boiler. The house proper can be as long as may be desired, up to two hundred feet; if much longer than that it should be built wider in proportion. It is not necessary to excavate under such a building except where boots of the elevator stand. They must be set deep enough in the ground for receiving grain from cars, with a good-sized hopper room around them for holding loose grain, because as a rule, the cars can be unloaded faster than the elevators can carry it up. There need be no regular foundation walls as have been described for other elevators in these articles. All that is required are rough, but strong piers of stone, one for each main post that supports the building, both on the outside and through the inside. The piers must be firmly founded, because they will have great loads to sustain. They should be built of flat rock, without any special regard to finish on the outside. There should be five rows of the piers running lengthways the building—one row on the outside of the tracks and three rows between the tracks. The distance apart, crossways the building, will depend on the height of it, and how much grain it is intended to carry. They should, in all cases, be close enough to insure absolute safety.

The first story, as we will call it, above the foundation piers, must be constructed substantially as described in our last article, only of heavier timber, the size of which will be determined by the load they will have to carry. The track spaces on each side of the building will lay level with the ground, which is not to be disturbed, except to dig pits for piers. It might be, of course, that there would have to be some filling in, to bring the building tracks up to grade; that would depend on the natural lay of the ground. It would be rare to have to excavate for the tracks.

Between the tracks the space must be filled with a floor raised up level, or about level with a car floor. On that floor the work of loading and unloading cars is to be done. Along the whole length of the building high enough to be out of the way, must run a shovel shaft, for operating shovels for unloading cars. That arrangement should be of the latest and most improved plan, as speed is an object in unloading cars, where there is a great rush of grain. They should not only work quickly but should be easily operated. There should be a track scale in each track for each stand of elevators, or two track scales for each stand of elevators. As before stated the elevators must go low enough so as to receive grain from both sides.

The main superstructure above the first story will be cribbed in about the same manner as before described, commencing with heavy walls and tapering them off as the top is approached. The cupola will have to be quite lofty, about forty feet high from square of the building to the square of the cupola, and should be, at least, twenty-four feet wide. The elevators should run up in, or near the center, and as high as they can be made. Each stand should be provided with a small stock hopper



into which the grain from the elevator is discharged. Beneath each stock hopper should be located an elevator separator of the largest size, one that will clean at least 2,000 bushels per hour. Beneath the separator, or near to it, so that the separator can discharge into it, must be located a hopper scale of a large capacity, not less than a carload at a draft. The scale must be so arranged in relation to the feed-hopper above referred to, and the separator, that the stream of grain can be switched from one to the other at will and without trouble.

During a very busy period, when grain is coming in very fast, and the side-tracks are blockaded with cars, the grain cannot be handled with sufficient rapidity through the separators; hence, the importance of providing for switching it off, and into the bins in a dirty state, from which it can be re-elevated and cleaned when time is not so pressing.

At the bottom of the scale hopper there must be attached a swivel spout that can be swung around and connected with any one of the various spouts leading from the scale to the bins it is intended to fill.

The last point determines the actual height of the cupola. Starting from that point, at a height sufficient to freely discharge in all the bins in that section, the building must run high enough to accommodate the other arrangement above referred to. That must be done by making careful drawings before work is commenced. The power is transmitted to the upper part of the building by a heavy belt running up through the building at the end next the engine room. This belt drives a line shaft in the upper part of the cupola, running the whole length of the building. On that shaft are fastened paper friction wheels on which the head pulleys of the elevators rest when running. When it is desirable to stop one or more elevators, the head pulleys are raised off the friction wheels, thus leaving the line shaft to run constantly.

The separators are also drawn off the main line of shafting, the speed of which should be not less than seventy-five revolutions per minute in the largest houses. The size of the shaft must be determined by its length and the amount of work it has to do. It should be tolerably heavy on account of the additional weight caused by the elevator pulleys resting on it.

The lifting capacity of all the elevators should be from 4,000 to 6,000 bushels per hour, so as to have no delay in getting the grain out of the way in a time of great hurry when the side tracks must be cleared. The foregoing remarks, though not complete in detail, which they cannot very well be, ought to give a fairly clear insight as to the requirements of a large elevator.

### GOVERNMENT CROP REPORT.

The returns of the yield of corn made to the Department of Agriculture, indicate a yield per acre equally as large as that of 1885, and larger than that of any other crop since that of 1880. The aggregate, grown on a larger area, will exceed that of any previous American product, being very close to 2,000,000,000 bushels, or about thirty-two bushels per capita, which has been exceeded in several previous years. The corn surplus states average yield as follows: Ohio, 35.2 bushels; Indiana, 35 bushels; Illinois, 36.2 bushels; Iowa, 37 bushels; Missouri, 31 bushels; Kansas, 27 bushels; Nebraska, 36 bushels. These seven states produce 64 per cent. of the crop aggregate. The general average will fall somewhat under twenty-seven bushels.

There is a good supply of maize in nearly all parts of the South, so that comparatively little will be required from the West. The yields of the Atlantic states are moderate, seriously reduced by frost on the northern border.

After three years of low yields, potatoes give an average of about eighty bushels per acre, or nearly the rate of yield of 1879. The averages of prominent potato-growing states are as follows: Maine, 110 bushels; New York, 82 bushels; Pennsylvania, 82 bushels; Ohio, 80 bushels; Michigan, 75 bushels; Indiana, 75 bushels; Illinois, 80 bushels; Iowa, 90 bushels; Minnesota, 95 bushels; Dakota, 80 bushels; Nebraska, 80 bushels. The yield has been increased in the South. It is high in the northern belt territories. The total product on the basis of these averages is about 195,000,000 bushels.

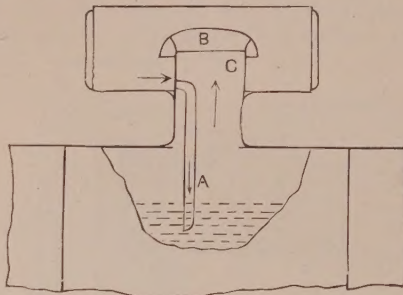
The average yield of buckwheat is approximately 12 bushels per acre; and the crop nearly 11,000,000 bushels. The average crop for New York is 11 bushels; Pennsylvania, 14 bushels; Michigan, 12.5 bushels; Indiana, 11.4 bushels; Illinois, 12.6 bushels; Wisconsin, 9.5 bushels;

Minnesota 11 bushels; Iowa, 10.8 bushels; Missouri, 10.7 bushels; Kansas, 9.5 bushels; Nebraska, 11.3 bushels.

Hay is a crop slightly above an average in yield, or 1.22 tons per acre. It has been nowhere seriously injured by drought. There is a strong tendency to increase of area in the South, and the yields upon cultivated areas rather than natural meadows are relatively large.

### TO STOP FOAMING IN BOILERS.

The accompanying sketch shows a method for stopping the foaming in boilers. Where a steam drum is used, a pipe *C*, the size of steam drum neck is fastened in neck extending six or eight inches above bottom of steam drum. Then an umbrella *B* or cap is fastened on top of piece of pipe *C*, to cause current of steam and water to be thrown down on bottom of steam drum. The water in pipe is deposited on bottom of drum, and runs down pipe



*A* to boiler. Pipe *A* is fastened into pipe *C* on level with bottom of steam drum, and extends below surface of water in boiler. This arrangement has cured four boilers, which foamed so badly that the engine would stop after being run five or ten minutes. The same principle can be used on boilers with steam domes, especially where the hole through shell is smaller than dome.—*Western Machinist.*

### THE SAULT STE. MARIE CANALS.

[From *Engineering*.]

The two largest inland seas of America, Lakes Superior and Huron, are connected by a short river, the Sainte Marie, about 75 miles in length, and through this river and the two great lakes the International Boundary between the United States and Canada is established. The River Ste. Marie, the only outlet from Lake Superior, leaves it at its eastern extremity, and empties into Lake Huron, about 50 miles east of the Straits of Mackinac, through which is the only outlet of Lake Michigan, wholly in American territory, and on the same level as Lake Huron, while Lake Superior is about 21 feet or 22 feet higher than either. In its natural state the River Ste. Marie was obstructed by shoals and boulders, and by the rapids and falls of Ste. Marie about fifteen miles from the upper end of the river. These falls and rapids, concentrated within a mile, account for 18 feet of the total fall, 2.3 feet being below the falls in a distance of 35 miles to Mud Lake, which is on the Lake Huron level, and about 1½ feet above the rapids, is spread over the 15 miles, and is no serious impediment to navigation. From the head of the river at Pointe aux Pins, from which the navigation of Lake Superior commences, is 266 miles to Port Arthur, the principal Canadian port in the north shore of the lake, and 390 miles to Duluth, the principal American port at the extreme west of the lake, while from the foot of St. Joseph's Island, the extremity of Lake Huron to the Straits of Belleisle on the Atlantic, is 1938 miles, all navigable now by the Canadian canals and the St. Lawrence for vessels of 600 or 700 tons' burthen.

Fifty years since the whole country round Lake Superior was almost in a state of nature. Here and there some mining adventurers were prosecuting their explorations with more or less success, and the large fur companies had a few stations scattered round the 32,000 square miles of the great lake, but the greater part was unexplored, and the Sault Ste. Marie was the vanishing point of the great northwest of Canada and of the States, beyond which nearly all was mystery and uncertainty. The newly created state of Michigan was commencing its career, and in the first annual message transmitted by the Governor the importance of a canal round the Ste. Marie Falls was pointed out as a most desirable improvement. As a result of this a survey was ordered by the General Government, and in 1852 a grant of 750,000 acres of land was made to the state of Michigan, the proceeds of which

were to be devoted to the construction of the canal. The state transferred this grant to a company, and on June 11, 1856, the canal was complete and handed over to the state Government. This canal was 5,400 feet long, and near the lower end were two locks, each 350 feet long, 70 feet wide, and 12 feet deep, and lifting 9 feet, the locks being large enough to take in a tug steamer and three of the vessels then ordinarily used in the Lake Superior trade. The walls were of cut limestone from Marblehead, Ohio, backed with stone from Drummond Island in Ste. Marie's River, and after a lapse of thirty years are still in good condition. The water was admitted to the locks through openings in the gates, each lock requiring seven minutes to fill. The canal was all that was expected or required, and in the first season 100,000 tons of shipping passed through the locks.

In 1869, in spite of the check occasioned to the trade of the country by the civil war, the traffic had increased to 500,000 tons, and complaints were beginning to be made of the growing inadequacy of the locks for the trade of the country. The copper and iron ore trades were now thoroughly established, and the position of Duluth as one of the avenues of the Pacific trade was beginning to be recognized. Pressure was constantly brought to bear on the question not only of a larger and deeper canal, but of improvement on the navigation throughout so as to obtain a safe 16-foot channel between the two lakes. A sum for the enlargement of the canal was voted in 1870, and each year subsequently until 1881, at which time the new locks were nearly completed, when the whole undertaking was transferred from the state to the federal Government, and the construction and management was vested in the chief engineer's department. On September 1, 1881, the new lock was opened for general traffic, though the full enlargement was not complete until 1883. The new lock is placed parallel to, and outside of the old ones. It is 515 feet long between the gates, and 80 feet wide in the chamber, narrowing to 60 feet at the lock gates. It has 17 feet water on the miter sills and has a lift of 18 feet. The gates are worked by hydraulic power, and the water passes underneath the lock in communication with the upper and lower level, and is admitted to the chamber of the lock or withdrawn from it through a series of apertures in the cut stone bottom of the lock, so that there is no wave or motion in the water while filling or emptying, but a gradual rise and fall over the whole surface. The prism of the canal varies from 108 feet to 270 feet in surface width, while the western entrance from Lake Superior where vessels principally lay, is from 200 feet to 500 feet in width. The total cost of the new work was \$2,400,000.

The new lock was brought into operation not a moment too soon. For the fifteen years preceding 1884, the annual increase in the registered tonnage using the canal was comparatively uniform and averaged 107,313 tons per annum. In 1884, however, the increase was 955,578 tons, which was equal to the whole business that had passed through the canal from 1855 to 1860, the first five years that the canal was in operation. Up to 1881 the greatest draught permissible was 12 feet, and the old locks and canals were kept in operation excepting that the smaller vessels would pass through these, and if necessary relieve the new lock to that extent, but with the increase in draught to 16 feet the whole character of the business changed also, and in 1884 only 11 per cent. of the freight passing the canal could have used the old canal. The freight for 1881, when the enlarged lock was first used, amounted to 1,567,741 tons, and by 1885 this had increased to 3,256,628 tons, or more than double in four years. The increased business since the new lock was brought into operation seemed to increase out of all proportion to the most extravagant expectations, and in a report submitted to the Government, January 14, 1885, it was pointed out that should it continue to increase for the next four years as it had done in the past, the existing lockage system would be utterly inefficient. A project was consequently submitted to substitute one new lock for the two old ones now obsolete, without disturbing the lock of 1881, which up to 17 feet draught is all that is requisite.

The principal freight on the canal is coal and lumber upward, iron ore, copper, and grain downward, and these items thus cover six-sevenths of the whole trade. The heaviest item is coal, which, from 3,500 tons in 1855, slowly increased to 20,000 tons in 1870. In 1880 its volume had reached 170,000 tons. The new canal in 1881 jumped this up to 295,000 tons, and in 1884 it exceeded 700,000 tons. Copper had grown from 3,500 tons in



1855 to 36,000 in 1884. Iron ore nothing in 1855 and 12,000 tons in 1857, reaching 1,112,828 tons in 1884. Lumber, which for twenty years after the opening of the canal, did not average a million feet board measure a year, in 1884 reached 131 million feet—over 200,000 tons—while wheat, which made no separate return at all until 1870, reached a total of 14 million bushels in 1884, having clearly doubled in the last year. In 1884 it became necessary to light the canal throughout with electricity, a ten-light dynamo on the Brush system being run by the turbine in the machine house.

In 1885, altogether 5,043 vessels, aggregating 3,035,937 tons, passed through the canal. In 1886 there were 3,880 steamers, 2,033 sailing vessels, and 290 rafts and unregistered craft, carrying 922,158 tons of coal, 32,615 tons of copper, 1,696,263 barrels of flour, 17,346,212 bushels of wheat, 1,529,021 tons of iron ore, 73,691 tons of pig and manufactured iron, 136,664,000 feet of lumber, 3,434 tons of silver ore, and altogether 3,701,014 tons of freight. In 1887 the tonnage was 4,388,691, and the freight carried 4,882,802, being an increase of 24 per cent. in tonnage and 32 per cent. in freight over the preceding year.

As compared with the Suez Canal, in 1886 the St. Mary Canal was opened 220 days, and passed in that time 3,529,184 registered tons, or an average of 16,000 tons per day, or as 8 to 8.7 of the traffic of the Suez Canal. In July the Suez Canal had 528,671 tons, while the freight through the St. Mary Canal was 561,228, or 32,567 tons more. Since then the traffic on the one has largely increased, while on the other it has somewhat retrograded. In 1885, 3,620 vessels, aggregating 6,335,753 tons, passed through the Suez Canal, the net receipts from which were \$13,009,909, or an average of \$2.05 per ton of the vessels using the canal. If the same rate had been charged at "the Soo," the receipts would have amounted to \$7,235,827, or two and a half times the whole cost of the canal.

It is now proposed to give the canal a depth of 21 feet throughout, so as to secure 20 feet draught for vessels, and to replace the two old locks of 1885, now useless under the changed conditions of the navigation, with one lock 800 feet long between the gates, 100 feet wide in the chamber, with 21 feet water on the miter sills and an 18 foot lift. The estimated cost is \$2,055,576 for the new lock, and \$486,600 for deepening the canal. Simultaneously with the commencement of the works in the American side of the St. Marie River, the Canadian Government are calling for tenders for the construction of a new canal on the eastern side of the International line, through the island of St. Mary; the work being let in two sections, one for the canal and locks, the other for deepening and widening the channel-way at both ends of the canal, and the construction of piers and booms. The scheme also contemplates the utilization of the water power on an extensive scale for which the Canadian side of the channel is admirably adapted. The tenders for the work will be received until October 23 next. The new railway bridge opened on the last day of 1887, crosses both the American and Canadian canals in the vicinity of the locks, and the line will be in immediate connection with the hydraulic power that will be developed on the Canadian canal.

## WHEAT IN THE NORTHWEST.

The Minneapolis Tribune has been investigating the condition of the wheat crop of 1888 and its effect upon farmers, and reaches the following conclusions:

1. In the No. 1 wheat-growing belt of the Northwest there has been harvested a very much larger crop of wheat than the persistent and unreasonable bulls are willing to admit.
2. Probably but little, if any, more than 25 per cent. of this amount has been marketed.
3. A bushel of "rejected" wheat of the crop of 1888 can be sold by the farmers for more money than a bushel of No. 1 hard wheat of the crop of 1887 could have been sold for during the year.
4. The Northwestern farmer has had his pockets suddenly and unexpectedly lined with gold, and, the honest man that he is, has already commenced to pay old debts, build, raise mortgages, and pay his interest and taxes.
5. Many a crop of wheat has this year brought in enough money to more than pay the total cost of the land on which it was raised.
6. The average price for which wheat has recently sold is 100 per cent. higher than one year ago.



[We invite correspondence from every one in any way interested in the grain trade, on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interests of the trade at large, or any branch of it.]

### ELEVATOR PLANS WANTED.

*Editor American Elevator and Grain Trade:*—I wish to obtain plans for grain elevator with the very latest improvements.

Respectfully,  
New Haven, Conn. MERRITT W. BURWELL.

### NEW ELEVATOR.

*Editor American Elevator and Grain Trade:*—We have just completed an elevator of 20,000 bushels' capacity in connection with our mill. Wheat is fair. The corn crop is the best in the state.

Respectfully yours, GENEVA ROLLER MILLING CO.  
Geneva, Neb.

### WILL BUILD AN ELEVATOR.

*Editor American Elevator and Grain Trade:*—I have lately taken a partner, Mr. Overlear, in the milling business. We expect in the near future to build a 10,000-bushel grain elevator in connection with our mill.

Respectfully yours, BICKHART & OVERLEAR.  
Milroy, Ind.

### NEW ELEVATOR.

*Editor American Elevator and Grain Trade:*—Messrs. Trobridge & Skelton are building a new elevator here at Blue Hill, making the third elevator in this place. Mr. Swezey and myself have concluded to change from wind power to steam, and also to put rolls in our mill.

Truly yours, R. O. Frank.  
Blue Hill, Neb.

### TOO VALUABLE TO MISS.

*Editor American Elevator and Grain Trade:*—Herewith find inclosed \$1 for the AMERICAN ELEVATOR AND GRAIN TRADE, commencing with the September number. Our subscription ran out in August, and we renewed through a news agency. The paper has never showed up, and it is too valuable to do without. Hence, send it along quick.

Yours truly, DONEY & CO.  
Columbus, Ohio.

### DRYER WANTED.

*Editor American Elevator and Grain Trade:*—Inclosed please find \$1, for which you will please send us your paper. We want a dryer. Can you give us the names of parties that manufacture them? We want one that will dry 2,000 bushels of wheat or corn per day.

Yours, C. M. BENNETT & CO.  
Urbana, Ohio.

[Our correspondents can no doubt find what they want in our advertising columns.]

### THE AWARD ON BALING PRESSES AT THE CINCINNATI CENTENNIAL.

*Editor American Elevator and Grain Trade:*—We inclose herewith copy of a challenge, which was not accepted, issued by us after the award made at the Cincinnati Centennial which gave to the Whitman Press the medal. We also inclose a copy of a letter signed by four out of the six exhibitors in the same class and group asking the jurors not to pass an opinion until they had seen the machines in practical operation. This letter they ignored. One reason that we have to believe that the verdict was an intelligent (?) one is the fact that the jurors spent just eight minutes in examining the Victor Press, and another more striking one is that the jurors, when they started out to hunt hay presses, stopped at a tobacco screw or press, and had not the gentlemen in charge of the next exhibit informed them that it was not a hay press, we have reasons to believe that they would not have discovered their error until an examination of the records brought it to light. In fact, we made this assertion to the

Board of Commissioners in our protest against the award of the jurors.

You will readily see they were capable of passing an intelligent opinion!

Respectfully,  
Quincy, Ill. GEO. ERTEL & Co.

[Following are the documents alluded to in the above letter.—EDITOR.]

### A CHALLENGE.

An award having been made at the Cincinnati Centennial which gives dissatisfaction, it has been deemed proper, under the circumstances, to have a practical test before competent judges. This has given rise to the following challenge, and will, it is hoped, be accepted, to the end that all dissatisfaction may be removed:

CINCINNATI, O., Oct. 15, 1888.

E. F. Harmeyer, Esq., Agent Whitman Agricultural Co., Cincinnati, O.:

DEAR SIR:—In view of the fact that the jurors selected at the Cincinnati Centennial Exposition awarded the Whitman Horse Power Hay Press the medal for superiority over the ERTEL VICTOR HAY AND STRAW PRESS, and this without a practical test of same, which was directly against the wishes and expressed request of four out of the six exhibitors in the class and group, as shown in a letter now on file with Levi C. Goodale, Esq., Chairman of the Committee of Rules, Jurors and Awards, and which you refused to sign.

We hereby challenge you to place the Whitman Horse Power Press, of same size and style as the one you now have on exhibition, in the field, and operate the same against the ERTEL VICTOR HAY AND STRAW PRESS for the sum of one hundred (\$100) dollars, the machines to be examined on the following points:

- 1, Simplicity of construction; 2, Ease of operation; 3, Economy of operation; 4, Strength of machine proper; 5, Strength of power device; 6, Speed; 7, Solidity of bales; 8, Number of charges required to make a bale of stated length; 9, Weight to the car; 10, Durability.

The Committee to render decisions in the above to be appointed as follows:

You to appoint one practical and experienced man that is operating regularly one of your presses. We will appoint one operating a Victor Press. Each shall have owned their respective presses for at least one year. These two to appoint a third, who shall either be a practical and thorough mechanic or a practical and experienced man in hay baling. The trial to take place within fifty miles of the city of Cincinnati or in the State of Illinois. The time and place to be named by the first two appointed of the Examining Committee. This challenge to be accepted within five days from the date hereof. Respectfully,  
Quincy, Ill. GEO. ERTEL & Co.

### [A LETTER.]

CINCINNATI, O., Oct. 8, 1888.

The Hon. L. C. Goodale, Chairman Committee on Jurors and Awards:

DEAR SIR:—We, the undersigned, exhibitors in Class 1, Group 2, would most respectfully call your attention to the contest between the members of the above class and group, and the importance of examining the machines in practical operation; and in order that your honorable body may have this opportunity, we respectfully ask you to so decide, and have the exhibitors display machines in operation at any time and place you may be pleased to designate. Respectfully,  
GEO. ERTEL & Co.,  
Per K. M. Turner, Manager.

THE FOOS MFG. CO.,  
Per James F. Winchell, Supt.  
LAGONDA MFG. CO.,  
Per J. B. Clingerman, Sec'y.  
EAGLE MFG. CO.,  
Per C. B. W.

I hereby certify that the above is a true copy of a letter written by me and presented to every member in the class and group, all of whom signed it, except the Springfield Engine and Thresher Co. and the representative of the Whitman Agricultural Co.

K. M. TURNER.

Subscribed before me and in my presence, at Quincy, Ill., by K. M. Turner, this twentieth day of October, A. D. 1888.

[SEAL.]

RICHARD JANSEN,  
Notary Public.



## TRADE IN THE SOUTHWEST.

[Special Correspondence.]

KANSAS CITY, Nov. 12, 1888.—During the latter portion of the past thirty days the national election has caused a good deal of relaxation in the grain trade throughout the Southwest. The grain men were little affected by the tariff revision proposed, and it is not believed that many voters were changed for either party on this ground. A good deal of astonishment has been expressed that the farmers of the land should have, on the whole, shown a leaning toward the Republican party, evidently not desiring the tariff list to be tampered with. However, the grain and breadstuff question had little to do with moving votes one way or the other. The wool question was worked for all there was in it, and with good effect, by the Republican orators, and the result was that they found the farmer votes coming to the front like hot cakes. So far as I can learn, the farmers have not much more confidence in the future administration than they have had in the one just coming to a close. It is evident that they are becoming more and more convinced that one man cannot materially injure the country, even if he be President. Commission men here concede that the Cleveland administration has been a good one, and they expect a continuation of the same under Harrison. To be sure, the past three years have not been full of success to the business in the Southwest, but for this they are not inclined to blame administrations. Shortage of crops and the hand of fate is supposed to have worked against them.

So far as local grain men are concerned, they are not much interested in politics. There are not more than three or four among them who will consent to take an active part in a campaign, and while some of them have subscribed heavily to campaign funds, they have done so from the fact that their sentiments were in favor of one party or the other—not from the idea that any hurt was to be done their business by the success or defeat of a party, but because they had voted a certain ticket from time immemorial and their fathers had done the same before them. The farmer vote of Kansas came to the front with a greater showing for Harrison and the principles his party represents than ever before. The prohibition movement cut little figure in that state. It is becoming more and more impressed upon the citizens of that state that prohibition, as it is carried on in Kansas, is not a success. They feel that it would have been better far for the country if the extreme war which has been raised against the liquor business had never been held. Yet there is no evidence that there will be any material change in this respect for several years to come.

With reference to the future of wheat in Kansas, there is every reason to believe that it is brighter than for several years. A conservative estimate, compiled by those who are best informed in the situation, puts the amount of acreage in winter wheat throughout the state as being larger than ever before. This is particularly the case as regards sections where this crop was almost a total failure this year. The farmers there do not appear to have become entirely disgusted. They have looked into the history of crops, and have discovered that three years of absolute failure of wheat have not as yet been chronicled. Hence those who have reaped but little benefit from wheat for three years past are very confident that the coming year they are to play a winning hand. Some parties who have just returned from a trip throughout the Southwest say that wheat is looking finely, and that the promise of liberal yields was never better. The fall season has been of the very best for the advancement of winter wheat. Rains have been timely and not in excess of the demand. Some very good seed has been had, the farmers not caring to run any risk of inferior crops on account of inferior wheat. Hence the bulk of that planted was brought from sections where full berries were harvested. I am told that there has not been hardly any wheat used as seed in these southern counties which was grown there.

The supply of wheat in local elevators is fair, considering the fact that the crop was so limited down this way. At present there are 343,382 bushels held here, and this amount is being added to right along, the shipments being less bountiful than the receipts. Those parties who think that the supplies of this grain throughout the Southwest are quite limited, will be a good deal disappointed. In the wealthier sections of Kansas and Nebraska, and in some portions of Iowa, the farmers are not placing their wheat on the market to an excessive amount. They are

holding off for the higher range of values which they believe is promised before the winter is over. The bulk of the wheat which has been put upon the market comes from those sections where the husbandmen found they were compelled to realize funds at once to meet mortgages and interest due on their holdings. It is thought that the great majority of these farmers have tendered their wheat, and that during the next month the receipts will be less liberal. On the whole, the bull movement is most in favor down here. Outside elevators are not carrying large supplies of wheat. When the elevator men at the larger centers discover an outside elevator filled with wheat they do not rest until they get the same within the city limits, knowing as they do that Chicago and St. Louis grain men will take the same, unless it is gobbled up at once. The experience of the past four years has taught the local elevator men that they cannot afford to sit down and await the coming of the grain trade to this market. There is no longer any question in their minds but that it is going to be uphill work to make Kansas City hold the place to which she is entitled as a winter wheat city. The Board of Trade was managed too long by committees whose judgment was strangely warped, and now that the more far-sighted have seen the suicidal policy, and know its probable lasting effect, work is being done as never before toward the concentration of trade from adjacent cities to this point.

There is next to no corn held by elevators here. The visible supply amounts to but 2,305 bushels—not enough to run the local market, by any means. In fact the supply is only nominal. The larger local consumers of corn have to send to the country direct for their supplies, or are compelled to take oats in place of it. The reason for this shortage in supplies of corn is the advance in values of hogs and the probable improvement in cattle. The average farmer finds that it pays him more liberally to feed his corn to hogs and cattle and get from three to four cents a pound for the product than to ship the same to market at the prices now ruling. It must be remembered that more stockers and feeders have been bought in this market during the past three months than ever before in the history of the city, and the bulk of these have gone into Kansas and those states which, as a rule, make Kansas City their central point for marketing.

Oats show up better than ever. This is owing to the fact that the crop of this cereal all through the Southwest was more than usually liberal. At present the visible supply shows up to the very neat amount of 331,704 bushels. The shipments and receipts are about even. More oats are used in local circles than usual, in many cases taking the place of corn. Beforetimes a good deal of the oat crop raised in Kansas was sent to the Western sections of the country, and never came within the limits of this city. This year a bountiful crop was raised farther west than ever before, and while the shipments to the West are still liberal, there is enough left to supply this market and all the requirements of its Eastern trade.

The elevators here hold just now 11,354 bushels of rye and not a grain of barley. The rye is taken mostly to the North, on account of the prohibitory laws now working in Kansas there being little demand for this cereal. This is also the reason that farmers of Kansas are raising less and less rye each year. They find that they have to go to distant sections for their market, and the resulting prices are by no means satisfactory, in no way comparing with those obtained by farmers nearer the center of trade. It is not believed the coming year will find many farmers putting in this cereal. Oats and corn will take the place of it.

In grain the general tendency of values has been to a lower point. For a week at a time not a sale of wheat has been reported in local Board circles, and when the rather liberal supply on hand is taken into consideration, it must be evident that some parties are manipulating the market to their own profit. Who it is that is controlling the supply of wheat here, no body can apparently determine. Probably the close of the month will elucidate the problem. The general run of values in corn has also been toward a lower level, although so far as the market here is concerned, operations have been too limited to explain the present condition. Oats have followed as usual in the wake of corn, and values are slightly lower than at the beginning of the month. The latest bids offered on these cereals are as follows: Wheat, 91 cents for No. 2 red; corn, 35½ cents for No. 2 mixed; and oats, 20 cents for No. 2 cash.

It is natural that corn juice should make a man's voice husky.

## Points and Figures.

Corn is king; at least our corn is aching.—*Ex.*

"Old Hutch" gave Ben Butler the first law case he ever had.

Although corn has many kernels, that is no sign it was first grown in Kentucky.

A man in Cornville advertises, "A good corn sheller for 25 cents." He is a druggist.

The wind now whistling through the cornfields has a husky tone.—*Pittsburg Chronicle.*

The stock of clover seed at Toledo, Ohio, is 12,000 bags against 20,700 bags a year ago.

In the Black Hills wheat is sold by the 100 pounds. Recently that amount brought \$1.50.

Thirty-four varieties of corn are being tested on the experimental farm at Brookings, Dak.

A farmer of Brown county, Dak., has been offered \$1 per bushel for his next year's wheat crop.

The last week of October 4,500,000 bushels of wheat were stored at New York for exportation.

It has been estimated that during growth Indian corn draws thirty-six times its own weight of water from the soil.

During the last year the population of Dakota was increased 72,346 and 2,500,000 acres of land were newly entered and purchased.

An Idalia, Colorado, man has a piece of white corn planted between rows of trees which yields at the rate of seventy-five bushels to the acre.

Corn is not only king, but it is the fodder of our country; hence no American's patriotism can be questioned when he shouts, "God save the king!"

From Sept. 1, 1887, to Oct. 6, 1888, 10,630,000 bushels of wheat and 3,570,000 bushels of corn were exported from the United States and Montreal.

A farmer at Wheatland, N. Y., claims the largest ear of corn grown in the state this year. It was about fourteen inches in length, and contained 1,328 kernels.

During the month of September 409,858 bushels of wheat were exported from Boston, against 55,077 bushels exported during the first twenty-four days of October.

In each minute in the United States, night and day, all the year round, twenty-four barrels of beer have gone down 12,069 throats, and 4,830 bushels of grain have come to bin.

In an experiment at the Michigan Agricultural College where salt was sown with wheat, 150 pounds of salt being sown to the acre, it was found that it decreased the yield of wheat.

Washington Territory has 6,000,000 and Oregon has several million acres of land especially adapted to wheat raising. It is estimated that it will yield 20 to 40 bushels per acre every season.

Bread baked from basswood sawdust and corn starch passed muster in a Boston restaurant as "Indian bread," but some of the eaters afterward complained that their hunger had not been satisfied.

The business manager of Cleveland's defaulting city treasurer claims that he did not lose a dollar by Hutchinson's corner, but that he did lose in the Harper deal, with which he was connected.

A farmer near Columbia, Dak., raised 3,400 bushels of wheat on 145 acres, and after selling enough to pay for seed, planting and harvesting, he has enough left to bring him more than he paid for his land.

A searcher for odd facts has found that one in every one hundred of the farmers of Michigan raised only five bushels of wheat per acre this year, and two in each one hundred raised over thirty bushels per acre.

There were 140,000,000 acres under cultivation in corn, wheat, rye and oats in the United States this year. There are still about 322,000,000 acres of public lands which have not been surveyed, and a great part of this can be used in the cultivation of cereals.

Campaign Orator—If I should ask you, my friends, to name the one great element which is gnawing at the foundation of our mills, our malt-houses, our granaries and our elevators, what would be your reply?

Still, Small Voice—Rats!





The Boston Belting Co., Boston, will soon commence work on their new machine shop.

The Link-Belt Engineering Company has been chartered to do business at Philadelphia; capital stock, \$100,000.

The Jeffrey Mfg. Co., Columbus, Ohio, write us that they are having a splendid trade, and that the demand for their elevating machines continues unabated.

The Muscatine Sheller Company is the name of a new organization at Muscatine, Iowa, of which S. D. McCurdy is the manager, and is backed by a number of capitalists of Peoria, Ill. A building is being erected, and they will soon be ready for business.

Messrs. Knisely & Miller Bros of this city, manufacturers of corrugated iron of all varieties, are filling a great many orders. They have lately received the agency for W. R. Kinnear & Co., Columbus, Ohio, sole manufacturers of Kinnear's Patent Sheet Steel Ceilings.

H. J. Deal Specialty Co., Bucyrus, Ohio, write us that they are having an excellent trade in grain testers and are furnishing them to mills and elevators all over the country, a great many parties ordering as high as one-half dozen at a time for their different elevators.

Cranston, Huntley & Co., Silver Creek, N. Y., write us in a recent letter: "Trade continues to be A No. 1 with us. We are still running fifteen hours, and do not seem to catch up at all with orders. We have received over 100 orders so far this month for our different machines, and this right in the face of all the excitement of politics, as well as the crowded condition of the mills at present, owing to the advance in grain and the demand for flour."

### SPONTANEOUS COMBUSTION OF GRAIN.

Upon opening the hatches of the steamer Hathersac, which recently arrived at Nordheim, Germany, loaded with barley in bags, smoke was seen to come from the hold and it was discovered that more than one hundred sacks of the grain were partly burned or were very hot. These were brought on deck and the fire was soon extinguished. The origin of the fire is not known, but it is believed that the barley was damp when put into the sacks and heated and ignited the same as damp hay often does when stored.

### THE "VISIBLE."

The stocks of grain in Chicago elevators Saturday evening, Nov. 10, were 4,424,519 bushels of wheat, 3,081,859 bushels of corn, 2,947,473 bushels of oats, 720,119 bushels of rye, and 66,007 bushels of barley. Total, 11,239,977 bushels of all kinds of grain, against 6,337,740 bushels a year ago. For the same date the secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 34,340,694 bushels of wheat, 9,251,018 bushels of corn, 8,456,154 bushels of oats, 1,556,390 bushels of rye, and 1,624,497 bushels of barley. These figures are larger than the corresponding ones a week ago by 645,898 in wheat, and smaller by 1,511,804 in corn.

### COST OF RAISING WHEAT 100 YEARS AGO.

Says a writer in the New York *Commercial Advertiser*: Two dollars is a round price for wheat—even September wheat—yet less than a hundred years ago it could not have been grown for that money. For then America had not a binder, a reaper, nor even a five-fingered cradle; the reaphook was the harvest implement. The harvester gathered his left hand full of wheat and cut through it with a smart blow of the sickle, dropping the swath orderly behind him. After him came a boy who gathered the handfuls into bundles, and after him a smaller boy—the band-dropper—who left with each armful a band which had been made by the men too old for severe labor by knotting together the heads of two strands of about a dozen wheat stalks each. Then came binders and shockers, and after the grain was cured it was either stacked or hauled to the barn to await a convenient season for thrashing. This the best farmers ac-

complished with flails upon a thrashing floor, but the bulk of them trod out their crops by riding horses round and round over the heads spread in a ring upon beaten earth. Then it was winnowed dropping from a height upon a windy day, then carefully washed, dried in the sun, picked over by the hand as the housewife now picks rice, and sent to mill to make flour that was only eaten upon high days and holidays. No wonder the old-time darkies styled it "Billy-seldom" in opposition to "Johnny-constant," the every-day corn bread, or that among people of primitive race flour bread is to this day "English dough" in contradistinction to the "Indian corn" that needs so much less of preparation.

### JACK STURGIS' CORN DEAL.

The recent wheat corner calls attention to the famous corn deal made by Jack Sturgis in 1870, says a Chicago paper. Unto this day do bulls and bears alike look back upon "Jack" as the most daring operator ever known on 'Change. B. F. Allen was interested with him in this manipulation that turned the Board over until it was convulsed. After figuring out that some 9,000,000 bushels of corn would be handled in this year, Mr. Sturgis formed a clique into which he brought shippers from Iowa to Liverpool. He bought July options in May and took all the cash corn as soon as it arrived. On one occasion he drew a draft for \$3,000,000 for grain shipped to Jesse Hoyt & Co. His corner culminated July 31. Owing to Mr. Allen's indiscreet confidence in a friend, B. F. Murphy, the tide of prosperity was turned against "Jack" and his coterie soon after. Instead of the 9,000,000 bushels they had calculated upon, they were forced to receive 18,000,000. Then they began to unload in New York, and here they found themselves no longer in control of the market.

### THE NEW OPTION BOARD AT MINNEAPOLIS.

The wheat pit at the chamber is a success, a howling success. When it was decided to put in the pit, many thought that the option trading would be active for a week or two and then gradually die out. But instead of that it has steadily increased, and it looks as if Minneapolis would be considerable of an option market after all. The great trouble is that the millers, who are among the heaviest buyers, want the actual wheat, and that clogs the market.

To make a wheat pit a success there must be some excitement and a great deal of noise. It's wonderful what an amount of lung power has been developed in the past few weeks. Charley Handy can yell like a maddened bull, and as unceasingly. A. D. Mulford also sings a continuous song, while little Jimmy Fraser comes in with a sort of "la-la-la" accompaniment. But he arrives at his objective point just the same. Charley Wheeler comes in with his piping tenor pretty often, while Gregory is always down in the pit helping out the chorus. Jim Cargill hangs around on the outside, and deals pretty freely when he isn't geying some one.

Take any day when there is a little activity and it is an interesting sight.

The Chicago market is going skyward. Some one over near the blackboard announces another advance.

"Pay five-eighths for 100,000," yells Handy, jumping to a chair in the middle of the pit.

"For heaven's sake, don't howl so," grumbled Mulford, "you'll split my ears."

"Bet \$10 she strikes 23 to-morrow," cries a man over on the side.

"Bet \$10 Mulford's a guy," says Jim Cargill, with a laugh.

"Move that Cargill don't know anything," retorts Mulford. "Gentlemen, prepare your ballots."

"Pay a half for May," calls Jimmy Fraser.

"Sell it for seven-eighths."

"I'll give five-eighths for a little," announced another dealer.

"Sold, 10,000 bushels."

"Make it twenty-five if you want to."

"Twenty-five it is."

"Hurrah for the bears and Grover Cleveland," sings out Porter.

"You'll lose on both," says Cargill. "You'll drop all your money and your house and lot."

"I'll still pay five-eighths for a hundred thousand December," shouts Handy, "I'm buying for 'Old Hutch.'"

"Now's the time to buy," shouts the representative of a Chicago house. "Cables are looming up."

"Here's another bull argument," says Jim Marshall; "the rabbits in Australia have eaten all the wheat."

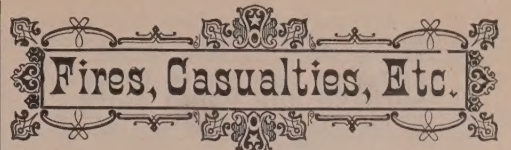
"That's offset by the fact that the crop in the Fiji Islands is five times as big as last year," says G. B. Kirkbride.

"I'll buy one five May."

"What'll you pay?"

"Well, I give you seven-eighths."

And so things go in the pit. For three hours things are humming. It requires a very bright man with the quickest of wits to work in the wheat pit.—*Minneapolis Journal*.



Cheat & Co., grain dealers at Bozeman, Mont., were recently burned out.

L. P. Stich's Enterprise Brewery, at Altoona, Penn., was destroyed by fire Oct. 23.

The brewery of Meyer & Riedlin, at West Covington, Ky., was damaged by fire Oct. 29.

Scheibe's brewery at Centerville, Wis., was recently destroyed by fire. Loss, \$90,000; insurance, \$45,000.

Frank Firmench, manager of the glucose works at Marshalltown, Ia., died Oct. 20; age, thirty-one years.

Douglass & Stuart's elevator at Mt. Auburn, Ia., was damaged by the cyclone which visited that place Nov. 1.

John R. Hudgins, a prominent feed dealer of Baltimore, Md., died Nov. 5 of heart disease. Age, sixty-five years.

The grain warehouse of D. R. Palmer, at Redfield, Dak., was burned recently, together with 1,800 bushels of grain.

Goddard's Corn-Sheller Factory, at Alliance, Ohio, together with other business houses, was destroyed by fire Oct. 30.

E. N. Cook & Co.'s distillery at Buffalo, N. Y., was partly destroyed by fire Nov. 14. Loss on machinery and whisky \$50,000; fully insured.

The new distillery at Calistoga, Cal., belonging to George Long of San Francisco, was destroyed by fire Oct. 24. Loss, \$12,000; insurance, \$7,000.

The distillery of J. P. Wiser & Son, at Prescott, Ont., was destroyed by fire Oct. 28. The fire was confined to the distillery proper. The loss is covered by insurance.

James W. Dale, a wealthy grain dealer of Carlisle, Pa., died Oct. 29, of softening of the brain. The deceased was forty years old, a leading citizen and a prominent Knight Templar.

Mrs. George Gray, wife of a prominent grain buyer, of Gray, Iowa, dropped dead at that place November 9. She was apparently in good health, and the cause of her death is unknown.

The elevator of Courtright & Armstrong, at Sheridan, Ill., burst Oct. 18, and let thousands of bushels of corn out upon the ground, a large part of which was damaged by the rain which fell a little later.

R. H. Taylor, one of the leading grain merchants of Clarke, Dak., was killed recently while driving in the country. His horse ran away and a gun in the buggy was discharged, the entire load entering his left side.

John M. White, formerly engaged in the grain business in this city, died recently at Los Angeles, Cal., where he had gone in hope of recovering his health. The deceased was twenty-five years of age and a son of James S. White, of Milwaukee, Wis.

L. J. N. Stark, formerly President of the New York Produce Exchange, died recently at the age of 72 years. He was one of the oldest members of the Exchange, and was highly esteemed by all. A committee of fifty of the old members of the Exchange attended the funeral.

The large elevator of Gilbert & Co., at Ottawa, Ill., was set on fire Oct. 26 by a spark from a passing engine and completely destroyed, along with 4,000 bushels of wheat, 1,000 bushels of corn, and 1,000 bushels of other grain. Loss on grain, \$2,500; building, \$5,000; fully covered by insurance.

The building occupied by the Fulton Grain Co., New York City, was destroyed by fire, with 350,000 bushels of oats, wheat and corn November 13. The fire is supposed to have originated in the engine room. The loss on machinery, building and grain was \$550,000. The building and machinery were insured for \$150,000, and the greater part of the grain was insured.

E. W. Densmore, one of the old members of the Board of Trade, and for many years connected with the flour trade of the city, died November 6, after a short illness, at the age of 69 years. He was at one time a member of the firm of Blair, Densmore & Co., and later of Field, Densmore & Co. He was very pleasant, and well-liked by all who did business with him.

The Wheeler elevator at Buffalo, N. Y., was damaged by fire November 13, which is supposed to have been caused by over-heated machinery. About 96,000 bushels of wheat and barley, owned by local firms and valued at \$120,000, were in store. A great part of it was saved, though in a damaged condition. The loss on the building was \$40,000. The building and wheat were fully insured.

The elevator of J. A. Closser & Co., Indianapolis, Ind., was damaged by fire Oct. 24. The fire was caused by a hot journal near the roof, which ignited the dry dust around it, and the flames soon burst through the roof. The damage is estimated at \$3,000; fully covered by insurance. The elevator was damaged about the same amount by a fire three years ago, and about the same time last year it was damaged about the same amount by a fire in the same part of the building.



## ELEVATOR AND GRAIN NEWS

Corn is coming in very rapidly at Stella, Neb.

The elevator at Cropsey, Ill., is running again.

A large brewery is to be built at San Diego, Cal.

E. E. Day has sold his grain business at Avoca, Neb.

A brewery is being constructed at Buckingham, Neb.

E. L. Arthur has sold his grain business at McFall, Mo.

Oscamp & Haines will build an elevator at Broken Bow, Neb.

One firm at Danforth, Ill., received 102 loads of corn Oct. 9.

It is said that the grain buyers of Sioux Falls, Dak., have pooled.

The elevator company at Leland, Ia., recently shipped a car of flax.

John Ross, grain dealer at Petersburg, Pa., has made an assignment.

Considerable No. 1 hard wheat is being marketed at Langdon, Dak.

Thos. Poole succeeds Poole & Elder, grain dealers at Goldfield, Iowa.

S. A. Pool has sold his grain and milling business at Stoutsville, Ohio.

H. E. Bouten, grain dealer at Holyoke, Mass., has retired from business.

Foster & Davis, grain dealers, Santa Cruz, Cal., have dissolved partnership.

Ruthven, Ont., is having a boom, and new warehouses will soon be built there.

Geo. Menagh has succeeded Menagh Bros. in the grain business at Denison, Iowa.

Snyder & Denton, grain dealers at Leavenworth, Kan., have dissolved partnership.

An elevator with a capacity of 30,000 bushels will soon be erected at St. Cloud, Minn.

Elliot & Higgins have sold their grain business at Gilmore City, Iowa, to W. Maher.

The farmers in the vicinity of Castlewood, Dak., are talking of building an elevator.

A. Feek & Co., grain dealers at Winnipeg, Man., have been succeeded by J. A. Mitchell.

The Augusta Brewery Co. of Augusta, Ga., will soon have its \$40,000 works completed.

Hasenwinkle & Cox, Cooksville, Ill., will soon place a meal and feed mill in their elevator.

The Cumberland Valley Railroad Co. are building a grain elevator at Martinsburg, W. Va.

J. S. Ewell, a prominent grain merchant of Adrian, Ill., is \$2,500 better off since the election.

Simmons & Jameson, grain commission merchants, Detroit, Mich., have dissolved partnership.

W. W. Foraker, who ran a bucket shop at Des Moines, Iowa, has failed. Liabilities about \$2,000.

Hunt & Co., grain dealers, Brenham, Texas, have assigned. Assets, \$10,000; liabilities, \$14,100.

L. S. Seaver & Co., grain commission merchants, Minneapolis, Minn., have dissolved partnership.

Recently twenty-five bins in Elevator "D," Duluth, Minn., were bonded for the receipt of Manitoba wheat.

George A. Seaverns will construct a grain elevator 205x167 feet at No. 3208 to 3230 Wood street, this city.

Thomas & Collins, grain dealers at Havelock, Iowa, have dissolved partnership. S. P. Thomas has succeeded.

Mathews, Miller & Co., proprietors of the elevator at Miltonvale, Kan., have been succeeded by W. T. Mathews.

Winslow & Conley, Lake Mills, Iowa, are building an addition to their mill, which will be used as an elevator.

The National Cotton Seed and Oil Company of Richmond, Va., has been chartered, with a capital of \$1,000,000.

Farmers' Union Elevator Co. recently placed a Paige Double Gear Horse Power in their elevator at Hamilton, Dak.

Harvey Lane & Co., Gifford, Ill., are enlarging their elevator. They have 200,000 bushels of oats in store here.

The firm of Williams, Black & Co. of New York City, has been re-organized and now consists of Richard P. Williams, Francis S. Williams and Paul Schwarz. The firm announces its purposes to maintain a strictly con-

servative policy and to attend to the execution of orders exclusively.

The Frederick Farmers' Alliance Co. of Frederick, Dak., is building an elevator with a capacity of 30,000 bushels.

Of the new crop Winnipeg has received 636,350 bushels of wheat, against 1,204,450 bushels for the same period last year.

A marine elevator has just been completed at Harbor Springs, Mich., that can handle 1,000 bushels of grain per hour.

The elevator at Hortonville, Wis., is running again, and doing a good business. Held & Mory are the present managers.

It is reported that two or three elevators will be built along the line of the Indianapolis, Decatur & Western road soon.

W. B. Bosh, proprietor of the Western Brewing Co., Burlington, Iowa, will probably build a brewery at Fremont, Neb.

D. H. McMillan & Co. of Winnipeg, are building an elevator with a capacity of 25,000 bushels, at Indian Head, Assiniboia.

The Oconee Elevator Co., Oconee, Neb., have filed articles of incorporation with the Secretary of State. Capital stock \$50,000.

The Thornburg Milling and Elevator Co. of Martinsville, Ind., has increased its capital stock to \$25,000. It was formerly \$20,000.

The railroad elevator at Hastings, Minn., shipped 100,000 bushels of wheat during October. The greater part of it was sent to Minneapolis.

The distillery at Iowa City, Iowa, which has been idle several years, has been sold, and will probably be converted into a grain warehouse.

The Roller Flour Mill Co. of Watertown, Dak., has elevators at Kampeska, Doland, Raymond, Hector, Luden, Oakes, Columbia and Marquette.

Messrs. G. C. Griswold & Co. of Henry, Ill., are putting in one of the Excelsior Oat Clippers made by the E. H. Pease Mfg Co. of Racine, Wis.

Pressy, Wheeler & Co., the grain dealers at Minneapolis, Minn., who failed some time ago, expect to settle with their creditors and resume business.

Horn & Schwalm, Oshkosh, Wis., are building an elevator near by their brewery, for barley. It will cost about \$4,000. Capacity 36,000 to 50,000 bushels.

The business men of Aberdeen, Dak., have broken up the wheat pool of that place and are now paying 96 cents. The combination were paying only 92 cents.

E. Kent & Co. have sold their grain business at Kenney, Ill., to Pratt & Co. of Decatur. F. R. Kent will go to Clinton and work in the same business there.

Montevideo, Minn., has three steam elevators with a total capacity of 120,000 bushels, and it is claimed that they ship 350,000 bushels of grain annually.

The proprietors of the "hospital" elevators of this city, it is said, are converting heathenish low grade wheat to good No. 2 that will fill contracts for December.

William Goodwin, who is in the grain and elevator business in Buenos Ayres, Argentine Republic, is in the Northwest investigating machinery and methods.

John M. Laurie, buyer for J. W. Hanna, grain dealer, at Virden, Manitoba, was recently relieved of \$1,500 while in a temporary fit of insanity, to which he is subject.

The receipts of barley in Milwaukee and Chicago, during the last ten days of October, were far in excess of the receipts for the same number of days in any previous year.

McLain & Crowe have decided to use, and recently placed, in their elevator at Litchfield, Minn., the Paige Horse Power purchased of G. W. Crane, Minneapolis, Minn.

The St. Paul Distilling Co. and the Hicks Malting Co. at South St. Paul have just received a million feet of lumber, which they will use in the construction of new works.

The St. Clair Distilling Co. has been incorporated at East St. Louis, Ill., with a capital stock of \$10,000. The incorporators are P. W. Abt, Theo. Vogt and John Bovington.

Tipton & Son, Conesville, Iowa, have sold their grain business to Mr. Isaac Heald, and Riedon Tipton has moved to Nichols, Iowa, where he will continue in the same business.

Mr. Morrison has withdrawn from the firm of Babb & Morrison, proprietors of a grain elevator at Thomasboro, Ill., and John Perring of Rantoul has taken his interest in the business.

Chas. A. Pillsbury & Co. will build a brick elevator at Minneapolis to cost \$25,000. The capacity will be sufficient to carry the adjoining mills through any ordinary delay in receipts.

The transfer of the Seaverns elevator property, near the corner of Clark and Fourteenth streets, this city, to Patrick Stanton was recently recorded. It is thought that the price paid was \$300,000. The elevator stands between

the tracks of the Lake Shore and the Chicago & Western Indiana railroad companies, and it is claimed that the latter road is the real purchaser.

George A. Spelts & Son, grain dealers, Octavia, Neb., failed Oct. 29. Liabilities about \$35,000; assets estimated at \$15,000. The failure is caused by losses on the Chicago Board of Trade.

The Northern Dakota Elevator Co. will use Paige Double Gear Horse Power and machinery in their new elevator at Sauk Center, Minn., which will have a capacity of 40,000 bushels.

The linseed oil mill at Leavenworth, Kan., has been started, and will run the rest of the season. It gives employment to twenty men, and has a capacity of 500 bushels of flaxseed per day.

The Northern Dakota Elevator Co. are placing in their new 40,000-bushel elevator at Medberry, Dak., machinery and Paige Double Gear Horse Power, purchased of G. W. Crane, Minneapolis, Minn.

J. Connors & Co., late of Chicago, have entered the grain commission business at Omaha, Neb. Omaha has two other firms engaged in the same business, J. M. Shaw and McWhorter & Rollins.

The manager of the Wells Elevator Co., Buffalo, N. Y., has been indicted for overcharging and evading the state elevator law. The Lehigh Valley Transportation Co. are the complaining witnesses.

C. W. Bailey, Tomlinson, Ill., has purchased 80,000 bushels of oats for Harvey & Co. of Chicago, and they are building a warehouse at that place. They have several thousand bushels of old corn in store there.

Otto Gartenberg will build a large grain elevator at Cragin, Ill., to cost \$10,000. It will be 36x46 feet, and have a capacity of 50,000 bushels. An engine and boiler room 31x37 will be built in the rear of the elevator.

The Minneapolis & Northern Elevator Co. recently placed an order with G. W. Crane, Minneapolis, Minn., for machinery for six complete grain elevators to be shipped to Carman, Minn., for the new line beyond.

The suit of Frank T. Peterson against D. B. Doty & Co. and the Scandinavian Elevator Co., Minneapolis, Minn., for wheat claimed to have been sold these companies, has been dismissed as to the elevator company.

The Canadian Pacific is building an elevator at Fort William, Manitoba, that will have a capacity of 1,500,000 bushels. When this is finished Port Arthur and Fort William together will have elevators with a capacity of 5,000,000 bushels.

Hill Bros. of Clarion, Iowa, were recently before the Iowa Railroad Commission, asking that the Chicago & Northwestern Road give them half rates on the transportation of material for the construction of a steam corn sheller at that place.

The Northern Pacific is rapidly building warehouses for grain at Tacoma, Wash. Ty. Recently there were 400 carloads of wheat at Tacoma awaiting shipment, and 260 carloads at Ellensburg. The lack of facilities for handling at Tacoma caused the delay in delivery.

The William Lea & Sons Co. is placing machinery for a conveyor and an engine in their grain storehouse at New Castle, Del. They have also built a large wharf, and will have the dock deepened so that large vessels can load grain there. In the spring they will build a large elevator.

Some of the creditors of William Kilpatrick, the missing hay and grain dealer of Oakland, Cal., claim that Kilpatrick is trying to defraud certain creditors, and have filed a petition in the Superior Court in hope of forcing him into insolvency for the benefit of all the creditors.

Knapp & McCord, elevator men and grain shippers, New York City, after a partnership of seventeen years, have dissolved by mutual consent. Mr. Knapp will continue in the elevator business, and Mr. H. D. McCord will continue in the grain shipping business at their old stand.

The elevator recently erected at Tobias, Neb., by the Farmers' Protective Alliance was dedicated Nov. 2. The farmers had a monster industrial parade and speeches were made by distinguished gentlemen from different parts of the state. The exercises were followed by two grand balls in the evening.

Benjamin Bryan, a grain broker of this city, who was arrested and taken to Atlanta, Ga., last month on a requisition from Governor Gordon, charged with larceny after trust, has been discharged, his innocence being clearly established. The branch house of Bryan & Lonsdell, at Atlanta, failed some time ago, and the losers claimed that it was due to crookedness in the firm's transactions. Mr. Bryan says that it was caused by the transactions of the agent in that city, for which the firm could not be held responsible.

G. W. Crane, 239 Fourth avenue, South Minneapolis, Minn., recently shipped Chicago Scales for grain elevators to the following places in Minnesota and Dakota, being mostly wagon hoppers and dormant scales: Cottonwood, Minn.; Marshal, Minn.; Russell, Minn.; Holland, Minn.; Ihlen, Minn.; Sherman, Minn.; Carson, Dak.; Raymond, Minn.; Maynard, Minn.; Granite Falls, Minn.; Green Valley, Minn.; Lynd, Minn.; Florence, Minn.; Pipestone, Minn.; Jasper, Minn.; Palsades, Dak.; Sioux Falls, Dak.; Nassau, Minn.; Albee, Dak.; La Bolt, Dak.; Hawley, Minn.; Norton, Minn.; Appleton, Minn.; Louisburg, Minn.; Hazel, Dak.; Vienna, Dak.; Bancroft, Dak.;



Oseola, Dak.; Yale, Dak.; Huron, Dak.; Ellendale, Dak.; Aberdeen, Dak.; Sauk Center, Minn.; Silver Lake, Minn.; South Shore, Dak.; Forrester, Dak.; Rauville, Dak.; Grover, Dak.; Brockland, Dak.; Straubville, Dak.; Riverdale, Dak.; Port Emma, Dak.; Guelph, Dak.; Silver Leaf, Dak.; Putney, Dak.; Breckenridge, Minn.; Medberry, Dak.; Olivia, Minn.

H. J. Deal Specialty Co., Bucyrus, Ohio, have lately received orders from the following firms for their Improved Grain Tester, a cut of which appears in this issue: Clay & Brown, Pleasant Hill, Mo.; N. Hunt & Son, Lone Jack, Mo.; L. T. Adkins & Co., Mt. Sterling, Ohio; Warsaw Milling Co., Warsaw, Ill.; Amos Keller, Tiffin, Ohio; Fleming Bros., Van Buren, Ind.; N. L. Bartholomew, Albany, Tex.; Albany Milling Co., Albany, Tex.; A. R. Elson, Magnolia, Ohio; Brewster Mill Co., Krumroy, Ohio; The Zoar Society, Zoar, Ohio; C. Boice & Co., Kingston, Ohio; T. W. Shartzler, Middleton, Pa.; J. W. Hughes & Co., Cavalier, Dak.; A. H. Herrick & Son, Watertown, N. Y.; Warwick & Justus, Massillon, Ohio; Paris Milling Co., Paris, Ky.; B. L. Rockwell & Co., West Burlington, Pa.; John Tait & Son, Braymer, Mo.

The failure of Clifton & Co. of this city is the heaviest caused by "Old Hutch's" wheat corner. Their liabilities are \$280,000, with only \$50,000 assets, leaving a deficit of \$180,000. A committee investigated the condition of the firm, and reported at a recent meeting of the creditors. The firm was organized Oct. 22, 1884, as a limited partnership for the term of five years, with a capital of \$80,000, to carry on a general commission business. Anderson Fowler, the wealthy pork packer, furnished \$60,000 of the firm's capital, and was to receive 45 per cent. of the profits. Frank Clifton furnished \$15,000, and was to receive 40 per cent. of the profits. Charles F. Clifton furnished \$5,000, and was to receive 15 per cent. of the profits. Each member was to bear the same per cent. of the losses as he received of the profits. The losses were made in the firm's private speculations. Mr. Fowler says that he has "lost enough already," and will not make the creditors any offer. However, they are very numerous, and will try hard to compel him to recognize his liability for 45 per cent. of the indebtedness of the firm.

J. A. Closser & Co., Indianapolis, Ind., one of the best known grain firms in the West, failed Oct. 29, and on petition of the partners, Sidney M. Dyer was appointed receiver. The firm's financial embarrassment began about five years ago by the failure of a former partner, involving the firm, and two years ago their affairs were further complicated by the death of the senior member of the firm, Col. J. A. Closser. After his death the company was reorganized, but the name was retained. The Interstate Commerce Law greatly depreciated the value of some property belonging to the firm by reason of its peculiar location. Some time ago they bought a large amount of wheat, and shipped it to Sandusky, Ohio, to be graded and shipped East by lake and canal. The Erie Canal gave way, stopping all navigation and causing a blockade at Sandusky, and before they could get their grain to New York the speculators began to manipulate the contract grade of wheat, and caused the difference between No. 2 and No. 3 red to widen far beyond their relative value. The wheat owned by the firm was No. 3 red, against which they sold No. 2 red according to the usual custom of the trade. By speculation No. 2 red was advanced far above No. 3 red, and the firm's holdings were sold at a great loss, whereas they had expected it to sell close to the value of No. 2. Their assets are estimated at \$100,000, consisting of one elevator at Indianapolis, one at Sandusky, Ohio, and real estate and grain. Their liabilities are almost entirely to Eastern parties, and will not be known until their Eastern correspondents are heard from.

### THE FIRST CORNER IN CORN.

Broker Russell of the Produce Exchange is a teacher in a Sunday school, and his knowledge of history, both commercial and profane, is "equaled by few and excelled by none."

"My friends," said he to a crowd of brokers at the Produce Exchange, "you doubtless think that the corner 'Old Hutch' has created in the wheat market is a pretty big thing—and so it is; but let me remind you that there is nothing new under the sun." The few of you who have read the Bible know that in olden times there was a tremendous shortage in the corn crop.

"The 'Old Hutch' of that day was a certain ruler of Egypt, who somehow managed to get the bulge on the other speculators. He captured all the loose corn he could find, and had it stored in great cribs, something like the big Erie, New York Central and Pennsylvania elevators. Then he watched his opportunity to sell out at high figures. Among the shorts who came to buy were Jacob & Sons. They—"

"Hold on, Russell," shouted a mob of brokers; "that's a chestnut, and we won't stand it."

Then the boys took Russell over to the sample table and punished him by pouring shelled corn and wheat down his shirt collar and neck.—*New York Telegram.*

Mr. C. H. McLaughlin, a Toronto grain dealer, has secured an attachment for \$4,800 on the property of Kraus & Co., a Wisconsin firm. Kraus & Co. sold McLaughlin barley to be delivered in New York on a certain date, but failed to carry out their agreement. The \$4,800 is the difference between the contract price and the cash price of barley on the day it should have been delivered, and the costs.

## ITEMS FROM ABROAD

The districts along the Danube will have a good crop of corn.

The world consumes annually about 2,165,000,000 bushels of wheat.

England will need \$25,000,000 worth of wheat more this year than usual.

Between Jan. 1, 1888, and May 1, Russia exported grain valued at \$77,688,750.

The French and German farmers are seeding a much larger area to wheat than last year.

Russia is shipping six times as much, and India twice as much wheat to England as at this time last year.

According to the *Liberal Zeitung*, Germany will have to import about 36,000,000 bushels of wheat this year.

Wheat sowing is progressing very actively in the United Kingdom, and the prospects are that there will be an increased acreage.

The south Russian crop of wheat is said to be inferior to last year's crop, in quality and weight, but to make equally as strong flour.

The wheat and rye market at Odessa was very active previous to October 13, but since then the holders have held back for higher prices and the receipts have been reduced.

Recently the warehouses of Vienna were so full that they could not find room for another hundredweight, and still the Hungarian shippers were asking for more room in which to store grain.

The average annual production of buckwheat in France is about 28,000,000 bushels. It is estimated that the yield will be about 56,000,000 bushels this year. It is selling at \$1.13 per 100 pounds.

Germany's wheat crop is placed at 68,088,000 bushels against 90,784,000 bushels last year, and as the annual consumption is about 107,806,000 bushels over 39,700,000 bushels will have to be imported.

In spite of the high price of wheat in the United States and Canada, which has almost stopped the exportation of grain, Gr. at Britain's supply during the six weeks ending Nov. 1 exceeded the consumption about 9,000,000 bushels.

Italy's maize crop will be 66,060,400 bushels, which is about 22 per cent. below the average crop. Dry weather at time of maturity and floods at harvest time did great damage, and it is estimated that about one-third of the crop will be of poor quality.

Late advices from South Australia state that the farmers still hold a fair quantity of wheat, but as they expect an advance they will not part with it. Late rains have done much good, but still the prospects are not very good, and wheat will not average over six bushels per acre.

The Hungarian wheat crop is the largest the country has ever produced, except last year, which was an exceptional year. The official report gives 136,822,850 bushels as the crop for 1888, and with a reserve stock it is thought that 40,000,000 bushels can be spared for export.

France imported during the two months ending September 30, 9,600,000 bushels of wheat and flour, against 5,800,000 bushels for the same period last year. It is estimated that October 19, 1888, there were 3,480,000 bushels of wheat on passage to the western ports of France, against 400,000 bushels on the same date last year.

The new wheat crop of Great Britain and Ireland is below the average in many points. The milling qualities are poor and the grain is light. The yield is about twenty three bushels per acre against thirty-two bushels per acre last year, and with an increased acreage the crop will not amount to more than 61,250,000 bushels against 76,000,000 bushels last year. It is estimated that before another harvest England will have to import 160,000,000 bushels.

The editor of the *Mark Lane Express* states that "the wheat markets of the world have been but little affected by the speculative movement in the United States. In fact, it has had a weakening tendency than otherwise, inasmuch as it is obviously probable that when the game is over the piper will have to be paid by liberal if not indiscriminate shipments to Europe. This has hitherto been the invariable cash result of these movements in connection with wheat gambling in America."

A prominent Liverpool grain house writes their correspondent here that: "We cannot understand the high prices now ruling in Chicago except on the supposition that the Atlantic states will want all their wheat for domestic consumption, and that there will practically be no export. Should this be the case, our own markets will soon have a strong upward tendency as Russia will not be able to supply the wants of the United Kingdom and Continent combined. There is a steady millers' trade going on

here without excitement, and millers generally are buying from hand to mouth; this makes the trade healthy. English wheats are being delivered in fair quantities, though in indifferent condition."

A great deal of grain is being shipped from the western part of Russia, in order to get as much as possible out of the country before the Baltic freezes up. There is an inclination, however, among the farmers to hold their grain for higher prices.

## THE EXCHANGES.

The New York Produce Exchange membership tickets are quoted as dull at \$1,475@1,500.

The Toronto Board of Trade held a meeting Nov. 9 to choose a plan for their new building.

Col. Atkinson and others have offered to put up a \$250,000 building for the Detroit Board of Trade and other exchanges.

The Wall Street *News* notes that the bears discovered the other day that opportunities were like vacant lots, which must be improved to be valuable.

The Utah Produce Exchange has been organized at Salt Lake City. "The object of which," the *Salt Lake Journal of Commerce* says, "is to secure uniformity of shipments in produce, to establish standards, to black-ball chronic kickers in the East, and ultimately to create a common warehouse whence large shipments can be made of uniform grade, and in connection with which may be a cold storage-room and elevator."

The Grand Trunk and the Baltimore & Ohio are the only roads running into Chicago that have built transfer houses and hopper scales as required by the state law, and in view of the unreliability of track scales, which will soon be increased by snow and ice, the directors of the Chicago Board of Trade, at a meeting Oct. 15, passed the following resolution: "That those companies which have not built transfer houses, and are not prepared to transfer grain in a legal way by Dec. 1, be proceeded against before the Board of Railroad and Warehouse Commissioners by the attorney of this Board."

The officers of the Chicago Board of Trade passed a resolution the fore part of last month to the effect that any member who should do business during other hours than those prescribed by the rules should be disciplined, expelled or suspended. A good many members of the Board are also members of the Open Board, which has trading hours from 9 A. M. to 3 P. M., and this seriously interfered with their business. Accordingly some of them applied for an injunction to restrain the Board of Trade from disciplining, expelling or suspending them for trading on the Open Board after the hours of trading on the closed Board, and it was granted by Judge Shepard. The members claim that during the interval that they were not allowed to trade on the Open Board they lost some of their old customers and suffered great losses. They have asked that the temporary injunction be made perpetual.

"Uncle" Rufus Hatch was shaking hands with his old friends on 'Change recently, and, when asked what he thought of Hutchinson's corner, said: "Seven-eighths of the loss was by foreigners, through their New York correspondents. The foreigners have been domineering our wheat market for three or four years, and I am glad to see them get the worst of it. The speculation in Berlin, Vienna and Liverpool has been immense. The regular importers of wheat have been gambling in American markets and making enough to pay the freight on their importations. The method was to buy cargoes of wheat in Australia or India and then sell for future delivery in Chicago. They would make 2 and 2½ per cent. a month and come out with enough to pay the freight on their cargoes. They were always short and had a notion that the wheat crop in America was illimitable. The Almighty sent a frost a little earlier this season and the foreigners were nipped. They don't understand it, and lots of them are short now. They will find it out in six months."

A correspondent of a Toronto paper estimates that Manitoba will have a surplus of 7,500,000 bushels of wheat. He bases his estimate on 32 bushels to the acre, counting only two-thirds of the area seeded.

Not only should the same rebate be made to vessels destined for American as well as Canadian ports, but the collection of tolls would be better to be abolished altogether and the Welland Canal, and in fact, the whole canal system of Canada, thrown open for free traffic the same as the Soo and St. Clair Flats canals. If the Americans should decide to retaliate by discriminating against Canadian ports in the collection of tolls in the Soo Canal it would be found to be a very serious matter. It is to be hoped the matter, which is likely soon to come up before the Government, will be made right and the grievance removed.—*Port Arthur Sentinel.*



# THE AMERICAN ELEVATOR AND GRAIN TRADE.

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**A. J. MITCHELL,** - - - Business Manager.  
**HARLEY B. MITCHELL,** - - - Editor.

## ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

## CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CHICAGO, ILL., NOVEMBER 15, 1888.

## A GREAT WHEAT COUNTRY.

Every grain dealer knows of some locality, some state, county or township, which he thinks leads all other localities in some things. When it comes to a point of rapid growth and wheat raising, probably the county which produced more wheat the twelfth year after its first crop than Wyoming, Nevada, Mississippi, Arizona, New Mexico, South Carolina, Idaho, Delaware and all of the New England states combined, is entitled to the first premium.

That county is a little tract of 1,536,640 acres in Dakota called Cass county. It was created early in 1873, and organized the following autumn. The greater part of the county is a level valley, timber is scarce, and it is a prairie country in every sense of the word. Among other streams which water the county are the Red, Sheyenne, Maple, Wild, Rice and Ruth rivers. A few ridges and knolls are scattered here and there. There were no settlements in the county previous to the fall of 1870, but the Northern Pacific Railroad was extended to the Red River that year, and the following spring there were settlements at Elm River and Fargo. The settlement of public land did not commence until 1874, and there was no rush to take the land until after the Dalrymple farms were opened; but after that it was soon taken, and a great deal of the railroad land purchased besides.

In 1872 not any grain was grown in the county. In 1880 there was 1,353,710 bushels, and in 1885 there was 5,983,830 bushels of wheat, 6,023 bushels of corn, 1,948,756 bushels of oats, 12,159 bushels of rye, 535 bushels of buckwheat, and 148,384 bushels of barley. The crop this year is not as large as last year, or as good in quality, but it is the first time in thirteen years that they have had even a partial failure.

The wheat produced there is superior to that produced in most localities. The Bureau of Chemistry of the United States recently analyzed 2,760 specimens of wheat, also the flour that was made from these specimens, and the bread that was made from the flour. In albuminoids Cass county stood second with 17.33 per cent, North Dakota taking the lead with 18.03 per cent. Cass county wheat was the best as regards the amount of moisture it contained, having only 7.67 per cent., while the average is 12 per cent. The flour manufactured at Fargo out of Cass county wheat contained more moist and more dry gluten

than any other specimen analyzed, and outranked even Pillsbury's Best. It contained about 2 per cent. less moisture than Minneapolis flour, and about 5 per cent. less than Ohio flour. All of the Northwestern specimens contained more nitrogen and gluten than the Eastern specimens, and the chemist said that 100 pounds of dry Dakota flour would make fifteen pounds more bread than the same amount of Eastern flour. With such a record as this, and thirteen good crops in succession, surely the people of Cass county can feel proud, and ought not to be the least bit discouraged on account of the partial failure this year.

## TRIMMING GRAIN IN VESSELS.

The stranding of the steamer Drake has again emphasized the necessity of properly trimming grain in vessels. The steamer in question had not been trimmed for any trip through the entire season. The captain claimed that the vessel would "trim itself," which is quite true, if the weather is propitious; but the fact remains that a vessel not properly trimmed has a dangerous amount of vacant space in her hold should bad weather be experienced. Trimming charges are \$1.50 per thousand bushels, which, of course, is a large item when freights are low. Moreover, the grain trimmers are not the most amiable people in the world at times, and often charge exorbitant prices for trimming grain alleged to be out of order. Nevertheless, the marine insurance companies are debating the question whether they can afford to insure vessels that are not properly trimmed. On the one hand, it is certain that many vessel owners will refuse to employ trimmers when freights are low; and on the other hand, the insurance companies are convinced that a lack of proper trimming makes a dangerous risk.

We may notice in this connection that a device has just been patented for trimming vessels by machinery. What its merits are we cannot say. Trimming by hand is disagreeable and unhealthy work, which is one reason why grain trimmers exact such high wages. The problem presented does not seem to be a difficult one to solve by machinery—not nearly so difficult as dozens of others in the mechanical world that our inventors have successfully grappled with. An appliance that would trim a vessel's cargo expeditiously would at once be received with favor, and a troublesome question in the grain carrying trade would be settled for good.

## "AMERICAN FUTURES" AND THE FOREIGN BEARS.

Of course, Mr. Hutchinson's little corner and the subsequent high prices for wheat to which foreign markets have not yet fully responded was too good an occasion to be lost by our British cousins to read us a lecture on the American sin of grain gambling. The London *Times* of October 22 laments that "in wheat it is now very hard to distinguish the really legitimate business from that speculative business which has now become such a curse." A study of wheat prices at Chicago convinces the *Times* that "a gamble of great magnitude has been going on," and that the speculative prices were for "wheat that has no existence." This last is strictly true. Fellows sold wheat that they did not have and that no one else had; hence these tears.

The *Times* clinches its argument that American prices are purely speculative by quoting the business on the New York Produce Exchange for nine days, from Oct. 12 to Oct. 20, inclusive. It appears from these figures that the sales for spot cash aggregated only 181,000 bushels, while the speculative sales amounted to 21,385,000 bushels. Therefore it concludes that the legitimate trading was less than 1 per cent. of the total! Perhaps our British friends may be pardoned if they feel a little sore over the recent corner of the American wheat market. For years they have been the large short sellers in our markets, and they have in the past couple of months dropped very neat little purses, which the bulls have picked up. That they should discover that dealing in futures

is a bad form of gambling all at once is curious. For the past five years they have been carting out good American money on their short deals, but now they discover that "somebody is cheating in this game." The foreign sellers have been the malign influence in the American wheat trade for years; and if they have repented and discovered that speculative deals are all wrong, we hope they will send back some of the proceeds of their operations for the past five years.

## AN EXPLOSION OF DUST.

All who handle grain, whether as handlers or as manufacturers, should understand that under some conditions the dust produced will explode. Flour millers and maltsters understand this fact better than others; but for the sake of safety, all should understand that the dust of grain, whether from the inside or the outside of the berry, will explode when the conditions favor it, viz., when the dust is mixed in the air in certain proportions, in a confined space (such as a bin, mill or elevator) and fire is applied.

On Nov. 5 an explosion occurred in this city in the starch factory connected with the Chicago Sugar Refinery. The building is a five-story structure on Polk street. The windows were open and the wind blew a cloud of starch dust against a gaslight, which caused an explosion that blew out some of the walls and made holes in the others, some of them 10 and 12 feet in diameter. The rafters were broken into splinters, a portion of the roof was blown into the river, and the rest of it perforated with holes. Much valuable machinery was wrecked, and the total loss reached \$20,000.

It is a mistake to suppose that such explosions are possible only in flour mills, malt mills or starch factories. Anything that will burn will explode if powdered and mingled in the air in a confined space. The dust from cleaning grain has been known to explode, as well as the dust in wood-working establishments. It is a danger present wherever dust is made, and should be provided against. The best protection is to avoid the use of open lights. Dust will not explode without fire, and the open light should be banished from every establishment where inflammable dust is necessarily made. Where dust is made in such operations as grain cleaning, it should be blown out the building, or into a loosely-made compartment on the outside of the building.

And we may remark here something not generally known. The refuse from grain cleaners, if allowed to accumulate in a heap and to become damp, is liable to spontaneous combustion. This is particularly true of smutter stuff.

## THE NATIONAL BOARD OF TRADE.

At this writing the National Board of Trade is in session at the Grand Pacific Hotel in this city, with its venerable president, Frederick Fraley of Philadelphia, presiding over its deliberations. As our readers are aware, the National Board of Trade has no executive functions, but simply aims to speak for the organized bodies of the commercial world in matters of common interest, and to advise such legislation as it deems best for the business of the whole country.

The present meeting has up for consideration any number of propositions from different local boards and chambers for the amelioration of matters generally. By far the most sensible proposition emanates from the Cincinnati Chamber of Commerce, and asks for the appointment of a committee to consider steps for making the actions of the Board more effective. This is particularly pertinent, as many of the excellent suggestions of the National Board simply remain suggestions. Another recommendation from the same body is that Congress legalize the cental system for transactions in grain, seeds, etc., with a view to the introduction of this system instead of our present bushel measure. This reform, if reform it is, has been urged before. As is well known, it is in vogue on the Pacific coast.

The Baltimore Board of Trade urges the importance of the Chesapeake & Delaware Canal,



which was postponed at the last meeting. The New Haven Chamber of Commerce wants the internal revenue system abolished. Philadelphia calls for subsidies to ships, restriction of immigration, an adjustment of the remaining national bonds so as to permit an extension of the life of national banks, suspension of silver coinage, etc.

The New York Board of Trade and Transportation wants letter postage reduced to 1 cent, demands a national anti-adulteration law, wants alcohol used in the arts and manufactures freed from the internal revenue tax, and measures taken to cut down our present large revenues.

Chicago, as usual, is not backward in stating what she wants, even if these wants are numerous and important. The Chicago Board of Trade wants the government to discontinue the issuing of monthly crop bulletins, on the ground that "their only effect has been to disturb the world's markets without giving any reliable information," which is curt if not courteous. The Chicagoans also want a Department of Commerce and Industry as an executive branch of the government. They also call for a law of Congress compelling refiners to brand all adulterated lard as "compound lard," or otherwise distinguish it so that there may be no danger of its selling for anything but what it is. Another proposition from the Chicago Board is that the Inter-State Commerce Act be amended so as to provide that bills of lading issued by common carriers shall establish the rights of the holders thereof, by being made to the order of a specified party, etc., and making it unlawful to deliver the property excepting on return of the contract or bill of lading properly indorsed. There are a number of other propositions before the Board, both for discussion and action. One of these is the desirability of the annexation of Canada, etc. When the usual level-headedness of the National Board of Trade on most commercial questions is considered, it is to be regretted that they have no legislative functions. We are convinced that on most commercial subjects they would make a better job than the solons at Washington.

## BARLEY AND WHEAT IN ENGLAND.

The *St. James Gazette* in a recent issue has quite a lengthy article on the comparative values of wheat and barley for cultivation in England. During the month of October in England it seems that more attention is paid to barley than any other cereal. It is then that the maltsters and the growers are the busiest. But this year the supply has been far below what it has been in previous years, and the grain has not turned out as well as was anticipated. Then, too, some of the farmers who are able to hold their grain have availed themselves of the advantage of allowing it to remain in the stacks during a couple cool months. When this year's crop came on the market, last year's crop had been completely exhausted, and during the last two months the price of barley has increased as well as the supply. Only 480 bushels of barley were sold during the first week of September at the 187 statutory markets, and it brought 81½ cents a bushel; but during the week ending Oct. 20 there were sold at the same markets 497,632 bushels at 88½ cents per bushel. In some previous years there has been more than 12,000,000 bushels of barley marketed in the kingdom during the month of October.

With wheat, which is the leading grain crop of England, it has been quite different. The crop is 20 per cent. below the average, but still the market price has dropped 18½ cents per bushel since September. The cause of this marked difference in the two cereals is explained by these facts. There is always a good demand, even when the supply is above the average for fine bright malting barley, and the English grower of good barley has no competitors, while the wheat grower has many strong competitors in the different parts of the world.

The question may be asked why the farmers who have tried to raise wheat, which has proved so uncertain in late years, do not take to raising

barley. There are two very good reasons why they do not do so. Fine barley cannot be grown on any but choice, easy-working, friable soil, and there is not much soil of this character in England. It is also a very risky crop, and bad weather during harvest time may reduce the value of it from malting to feeding level, which means a difference of about 50 per cent. If on account of bad weather wheat is in a damp state when marketed, the price is only reduced 14 per cent. Few growers can afford to run the risk of losing so much, and none but well-to-do farmers who have suitable land try to raise barley.

## THREE MINOR CROPS.

We give below the estimated production of rye, barley and buckwheat in this country for the past ten years, the figures for 1888 being approximations to the final estimate of the Department of Agriculture:

	Rye.	Barley.	Buckwheat.
1879.....	23,639,000	40,233,000	13,140,000
1880.....	24,541,000	45,165,000	14,618,000
1881.....	20,705,000	41,161,000	9,486,000
1882.....	29,960,000	48,954,000	11,019,000
1883.....	28,059,000	50,136,000	7,669,000
1884.....	28,640,000	61,203,000	11,116,000
1885.....	21,756,000	58,360,000	12,626,000
1886.....	24,489,000	59,423,000	11,869,000
1887.....	25,000,000	56,000,000	13,000,000
1888.....	25,000,000	59,000,000	14,000,000

It will be seen that the production of rye is nearly stationary. That of barley has been increasing steadily, while buckwheat is a capricious crop, but inclined to be stationary. There is plenty of room for the increase of our barley crop, as we still import millions of bushels annually.

## THE NEW CORN.

A word of caution may not be inappropriate at this time, in regard to the new corn. Give it plenty of time to dry out, and see to it that it does not spoil from lack of care. Usually corn needs more drying than it gets on the stalk; and this is particularly true when the fall and early winter are damp. If the cribs are too wide or too tight, it is not uncommon for the corn to become moldy. Every year thousands of bushels of corn are allowed to deteriorate simply through lack of care or a want of knowledge as to the conditions which will cause the corn to heat and spoil. Corn that is soft and damp after shelling is particularly liable to heat, and therefore dealers should be careful to give the corn opportunity to dry out well before shelling and shipping. This advice would seem superfluous except for the fact that thousands of bushels of soft corn are received in the great markets and sacrificed, simply because such corn is not safe to carry in store. Eager haste in shipping and trusting too much to luck depletes the account of many a shipper.

## FARMERS AND THE EXCHANGES.

The average farmer has about the same antipathy to Boards of Trade that he feels against the railroad. That his dislike is based on some actual grievance in both cases, we will not stop to deny; but in neither case is the grievance at all commensurate with the degree of his fierce opposition. The *St. Louis Globe-Democrat*, in the course of an article, an extract from which is given on another page, voices what is the common feeling of the granger population in regard to speculation on the Exchanges in agricultural products; and its sentiments, so far as the farmers are concerned, has received corroboration in the recent election in Missouri, where the plea was urged with farmers that one candidate was a prominent member of the St. Louis Merchants' Exchange. Nothing was urged against his personal integrity; but the election returns showed that with some farmers membership in a Board of Trade outweighed party considerations.

The farmer is not at the mercy of the traders and speculators. If he is obliged to sell his grain when everyone else is selling, that is his misfortune or the result of his lack of foresight. He surely cannot find fault with corners which en-

hance the price of his produce; his only possible complaint can be against the bears and their raids. It is true, bear influence has been strong in the markets for the past four or five years, but it has been the foreign bears and foreign views that were strongest. No clique can depress or raise prices artificially for any length of time. In the end, supply and demand govern, and the speculator is just as much subject to this inexorable law as is the farmer. While the baleful influence of bear raids is acknowledged, it must be remembered that they are the sins of individuals and not of bodies. The Boards of Trade have been of great value to the farmer; for the speculative influence has, in one very important respect, been exerted to his great advantage, in steadying prices and preventing great fluctuations. But we suppose the farmer will keep right on regarding the speculator as an enemy that fixes prices to suit himself, and who has repealed the law of supply and demand.

## WHEAT PRICES AND SILVER.

At the recent meeting of the British Association Mr. W. J. Harris contributed an interesting paper on the relationship between wheat prices and the variations in the value of foreign currencies. A portion of his paper related to wheat production in the United States, and the effect of our silver coinage upon it. In the course of his paper, Mr. Harris noted that the silver dollars given in exchange for wheat in New York to-day are precisely of the same value as the dollars which were paid for it in 1880, and the pound sterling with which we pay is just worth the same number of dollars that it was in that year. The fall in the value of silver has not placed the United States dollar at a discount, because the coinage is limited by the government, and the United States Treasury has acted on the system of thus keeping the value of its token higher than the worth of the weight of silver from which it is manufactured. No one in the United States can increase the number of dollars in circulation except the government itself. Were it possible for private persons to take silver to the mint, and have it converted into dollars, the persons so using their capital would be able to secure \$6.06 in exchange for £1 sterling instead of \$4.08, which is about the present value. Presuming the price of wheat to be \$1 per bushel in New York, they could with their £1 sterling purchase six and two-thirds bushels of wheat instead of four and four-fifths as at present. Silver would probably become the only currency in the United States, just as it is now the only currency of India.

After alluding to the situation in this country in regard to silver, Mr. Harris says: "The low prices for wheat for the last two seasons in this country have consequently marked the commencement of a decline in the acreage produced in the United States. In 1866, when the 'greenback' paper dollars were the general currency of the United States, the Western farmers received great benefit from the so-called depreciated currency. The depreciation simply existed in the minds of the outside world. The farmers had a real premium on production—a premium, in fact, which cannot now be denied by anyone, for those who really kept the 'greenbacks' until the resumption of specie payment in 1879 received for the wheat they had sold a gold price of 100s. per quarter. We have, therefore, in the past financial history of the United States a counterpart of what is occurring at the present time in some other countries."

AMONG the new advertisements in this issue will be found that of Simpson & Robinson, 413-415 Washington Avenue South, Minneapolis, Minn., contractors and builders of grain elevators and warehouses. The present season they have built a large number of their "Circular End" elevators, which have many points of advantage in the matter of compactness, strength and convenience. They will be pleased to submit plans and prices to parties who contemplate building.



## Editorial Mention.

AFTER Nov. 10 the railroads entering this city will not deliver grain to warehouses unprovided with Board of Trade weighmasters.

IN the Southwest decided complaints have been made of the scarcity of cars. The grievance has been seriously felt at Kansas City and along the Missouri Pacific system.

THE Minneapolis millers who have been experimenting with wheat from Washington Territory are reported not to like it. A considerable amount of this wheat has been stored at Duluth.

THE rye crop yields about 25,000,000 bushels, and the yield was about 12 bushels per acre. The crop of oats was nearly 700,000,000 bushels, and the average yield per acre was 26 bushels.

WORD comes from Omaha that the sales of lumber for corn cribs have been so great that dealers are away behind their orders. It takes a tidy bit of lumber to protect Nebraska's corn from the weather.

MINNEAPOLIS millers want other spring wheat millers to join them in shutting down for three weeks next month, to take some of the stagnation off the flour market. No definite arrangement has been made as yet.

THE oldest firm on the Chicago Board of Trade, not the oldest firm name, but the firm that has been in business the longest without any change in its personnel, has only been in existence twenty-three years. Chicago is still a new city.

AT a recent session of the United States Circuit Court in Michigan the executors of the Hoyt estate were enjoined from meddling with the Hoyt property. Several millions of the estate are invested in elevators in Chicago and Milwaukee.

SOME Chicago Board of Trade men have had to pay ridiculous wagers on the election. One gentleman blacked another's shoes in public, and another did a week's washing for his successful competitor in the window of a store, in full view of the public.

FOR the first ten months of 1888 2,774,000 bushels of flaxseed were received at Chicago, against 4,050,000 bushels for the corresponding time last year. The shipments for the same period were 2,065,372 bushels, against 2,893,748 bushels in 1887.

THE Michigan Millers' State Association, which met at Grand Rapids on the 13th inst., decided to curtail production 50 per cent. until Jan. 1, in the hope of bracing up the flour market. The millers present represented a daily capacity of 15,000 barrels.

AGAIN Mr. Pillsbury denies that he is doing anything in the speculative market. As his mills can consume about 13,000,000 bushels of wheat annually, he thinks he has a large enough job on his hands to get the actual stuff, without dipping into the speculative wheat pit.

IN our last issue we mentioned an order for Chicago Scales from a Minneapolis grain firm, comprising fifteen 5-ton scales, which, at the time was thought to be a very large order to be placed at one time. Since the publication of our last issue, we learn of another single order for these

scales which throws the other one in the shade. This last order was for thirty-three 5-ton Chicago Scales, the order being placed by G. W. Crane, 239 Fourth avenue South, Minneapolis, for a customer in Minneapolis.

COMPLAINT is made that oats on the Pacific coast are not bringing as good prices as they ought. The range of prices for the four months from July 1 has been \$1.10 to \$1.25 per cental. A year ago white oats brought from \$1.25 to \$1.40 per cental, according to quality.

THE corn crop will not turn out so well as anticipated in Ohio, Indiana, Illinois, Iowa and Nebraska. There is a streak of soft corn running through these states, which was probably caused by the frost in September. Corn is drying very slowly, and is not fit to be cribbed in large quantities.

ON Nov. 1 the stocks of grain in the city warehouses of San Francisco included 23,342 tons of wheat, 47,613 tons of barley and 3,251 tons of oats. The quantity of wheat in the warehouses of Port Costa at the same date was 117,052 tons. A year ago there were 233,867 tons of wheat in the Call Board warehouses.

ONE result of Mr. Hutchinson's little corner is that he has done a land office commission business ever since that event. People seem to think he is a lucky man to do business through. It is intimated that the old gentleman has filled some of the orders himself, which is contrary to the rules of the Board, and no better than bucket-shop dealing.

IT is said that there is a large block of Manitoba hard wheat stored in Liverpool, for which the Montreal owner was offered 30 shillings per quarter last June. Recently he was offered 43 shillings, which he declined, and it is said to be among the possibilities that the wheat will yet be brought back to Montreal, as prices bid fair to be high.

THE CASE MFG. Co. have favored us with a copy of a souvenir of the Ohio Centennial, such as they presented to the visitors who favored them with a call while visiting that exposition. The souvenir contains views of the principal buildings of Ohio's capital, and shows at a glance how strikingly near a metropolitan character Columbus is taking on.

ADVERTISERS in the AMERICAN ELEVATOR AND GRAIN TRADE always "get there." That is why Gen. Jones of Binghamton, will serve the people again as Lieutenant-Governor of New York. Another reason why he will serve in that capacity is that he got more votes than the other fellow. Gen. Jones was weighed in balance and not found wanting.

LAST Tuesday, Nov. 13, was a bad day for grain elevators. Watson's stores at New York burned with \$400,000 worth of grain, and the Wheeler Elevator at Buffalo also succumbed to the flames with 96,000 bushels of wheat and barley. Now let some enterprising man buy the burned grain when it is sold. Such speculations are nearly always successful, for the damaged grain is sold for a song, and the damage is generally overestimated.

THE Western Union Telegraph Co. has at last acceded to the demands of the Minneapolis Chamber of Commerce, and henceforth will have an office on the floor. When the Board first moved into their new building they tried to make some arrangement with the Western Union so that they could get the Chicago quotations and send messages at a fair rate, but failed. The rates were so high that at one time the grain men talked of building a line of their own. When the North American extended its line to that city an agreement was quickly made, whereby it was to

furnish the quotations for \$2,000 a year and send messages during trading hours at reduced rates, the company to have an office on the floor free of charge. The Western Union will pay \$1,500 a year rent for its office.

THE LINK-BELT MACHINERY Co. of this city have begun the erection of their large new foundry, which will be located on their 5½-acre tract at Thirty-ninth street and Stewart avenue, Chicago. The structure will be 286 feet long by 87 feet wide, and will probably be completed before spring. This is one of many evidences of the substantial growth that has marked the history of this company.

BRADSTREET's has recently called attention to the great amount of wheat exported from the Pacific coast, which of late has been much larger than the amount shipped from the Eastern ports. Wheat in the European markets is still quoted far below what it is in this country. In Liverpool it is about 20 cents below the New York market. The Pacific coast wheat is a cheap grade, and can be sold abroad at a profit.

AMONG our visitors the past month was Mr. Wm. Goodwin, an English gentleman who is about to go to Buenos Ayres, Argentine Republic, to build a line of elevators for a railroad company. It is possible that before many years the Argentine Republic will be a very important factor in the world's grain markets. She has a soil and climate admirably adapted to grain culture, and just now seems to be enjoying a great boom.

IN the "Drummer Tax" case of William G. Asher of New Orleans versus the State of Texas, the United States Supreme Court declared, Oct. 29, that all state laws imposing a license tax upon commercial travelers not residents of the state imposing the tax were unconstitutional. Asher contested the constitutionality of the law on the ground that it conflicted with that clause of the constitution which gives Congress the right to regulate the commerce between the states.

THE SIOUX CITY ENGINE WORKS, Sioux City, Iowa, write us: "We are having a nice run of trade on our Corliss Engines and Boilers; also boilers for steam heating plants. We have recently taken the general Western agency for the line of goods manufactured by Cleveland & Hardwick, Erie, Pa. We also represent the Miller Duplex Pump and the Shipman Oil Engines. With these specialties, in addition to our own line of automatic engine building, we feel confident that we shall be able to build up a large business.

ECONOMY in fuel is the watchword everywhere in the industrial world where steam is used as a motive power. Fuel is money, and the difference between a low-priced and a high-priced fuel often represents the profits of a business. Users of steam power will notice in this issue the attractive advertisement of the U. S. Grate Bar Co., 185 Dearborn street, Chicago. Their self-cleaning grates are now extensively used, and many establishments have given fourth and fifth orders after using them with satisfaction in connection with their boilers. The manufacturers of these grates will be glad to present their claims as money savers to all users of steam power who will write to them.

THE loophole through which 40,000 to 60,000 bushels of wheat were taken from the Union Elevator Co. at Minneapolis was discovered shortly after our last issue. Harry Holcomb, the ex-foreman of the elevator company, had a bin of his own in the lower part of the elevator through which a wheat chute passed. Holcomb made an auger hole in the lower part of this chute, and when wheat was being loaded into the cars his bin was also being filled. When a carload was thus accumulated it was hauled away and sold by his confederates, with whom he divided the spoils. D. C. Moak & Co., W. G. Harley and Charles



Mason are supposed to have been connected with the steal. Holcomb has gone to Canada "on a visit."

Mr. S. HOWES, proprietor of the Eureka Works, Silver Creek, N. Y., received on Oct. 26 a cablegram, advising him that the Eureka Grain Cleaning machinery had been awarded the highest honors at the Brussels Exposition. Mr. Howes is to be congratulated on the honors which have been and are being so constantly awarded to the Eureka machines.

WE have received from Williams & Orton Mfg. Co. of Sterling, Ill., a circular describing the Charter Patent Gas Engine, which they manufacture. The "Charter" has been successful from the start, and is now in extensive use. For many classes of work, such as elevators, where the power is intermittent, such an engine as the Charter has decided advantages.

Mr. C. A. Pillsbury and several other gentlemen made a tour, ten days ago, to discover just what the spring wheat crop was. The result as to Mr. Pillsbury was, it is said, to make him more of a bull than ever. Mr. Pillsbury has stated that \$2.00 a bushel on the present crop is not an impossibility. It is stated that he has from 4,000,000 to 5,000,000 bushels of wheat stored away in Minneapolis and in his own line of elevators, including what others are storing for him.

SHIPPING wheat up the Mississippi from New Orleans is something very unusual, but nevertheless 63,000 bushels were recently shipped from that point to St. Louis, and another steamer will soon come up the river with 48,000 bushels more. There are two things that tend to bring the wheat, which went down the river for exportation, back up the river—the high prices in the Western markets and the high freight rates which the ocean transportation companies are charging.

OLIVER DALRYMPLE, the manager of the famous Dalrymple farm in Dakota, is of the opinion that the price of wheat will advance during the winter, but he does not think there will be much of an advance until the farmers have sold it. In regard to the farmers holding back their grain, he said the amount had been overestimated, and very few of them would have any to hold back after they had paid their notes, for the crop is very light and a great deal of the grain is of inferior quality. Mr. Dalrymple thinks wheat will bring a good price for two or three years.

THE *Trade Bulletin* of this city advises shippers sending grain to this market to make it a point to have at least 24,000 pounds in every car, for Eastern and Southern roads charge for that amount whether the cars contain that much or not. Parties buying here for shipment over these roads refuse to take cars containing less, unless the freight is paid on the deficiency to the point of final destination, which ranges from 10 to 35 cents per 100 pounds. The Western roads centering here have fixed upon 24,000 pounds as the least amount of grain or seeds they will accept at carload rates.

THERE is considerable speculation as to what effect the present high price of wheat will have upon next year's acreage. Crop experts and many of the agricultural papers are of the opinion that the acreage of winter wheat will be about the same as last year. The prospects for a better and larger crop of winter wheat next year have grown more favorable during the last few weeks. Previous to that the ground was too dry to give a good promise, but a great part of the wheat-growing territory has been visited by rains, and cold weather has been rather backward so that now the outlook is much better, and unless something unusual occurs the next crop of winter wheat will be better than the last. This year about 37,000,000 acres were planted in wheat,

one-third of which was spring wheat. The high prices will surely bring on an increased acreage, especially in the Northwest, where there are millions of acres that will yield a good crop of wheat. And too, it will surely bring a good price, for it will be several years before the supply will be sufficient to push the price down to what it has been the last year.

THOSE who are at all conversant with the progress of recent years hardly need have their attention directed to the advantages of metal roofing and siding for all classes of industrial establishments. On another page in this issue will be found, in the advertisement of the Cincinnati Corrugating Co., a partial presentation of the advantages of their improved forms of roofing and siding for elevators, warehouses, etc. They have made a specialty of this kind of work, and with their large plant and excellent facilities, they are certain that they can give entire satisfaction. They will correspond with all interested parties who may write them.

GEO. ERTLE & Co., proprietors of the Economy Hay Press Works, Quincy, Ill., write us that they are tearing down their old shops and will rebuild new ones, which will give them three times their former capacity. Their order trade during the past season has been so much larger than they had anticipated, that they have been compelled to refuse some orders on account of their inability to get out the machines. But they hope to be able to accommodate their customers with more promptness next season, than heretofore. They received an order from Australia last week for twenty-five machines, and have every indication of a large foreign trade the coming season.

THE San Francisco *Grocer and Country Merchant* calls attention to the great difference between the price of buckwheat on the coast and the price in France. Of late it has not been purchased for less than \$2 per 100 pounds from second hands, and has brought \$1.92½ by the carload, while in France it was quoted at \$1.13 per 100 pounds for October delivery. There is such a difference in price that it could be imported and a good profit made, if the consumption was large enough to justify grain men to import any quantity. In France it is a very important product, and this year the crop has been unusually good.

## DOTS AND DASHES.

In the game of Chicago wheat it is after a deal that a fellow wants to cut.

"Whose deal is it?" asked one wheat cornerer of another.—*Merchant Traveller*.

"Old Hutch" and his wicked partners get up a wheat corner because they can cereal profits in it.

Wheat raised in the vicinity of Yankton, Dak., averaged sixty-one pounds to the measured bushel this year.

Contrary to the usual custom, a very small proportion of Ontario's barley crop has been marketed so far this season.

Professor Johnson, of the Michigan Agricultural College, holds that one and a quarter bushels of wheat to the acre will give the best yield.

The dealers at Kearney, Neb., have been buying wheat for 75 cents a bushel. It is said to be a very poor quality as compared with that marketed in the neighboring counties.

According to the report of the Winnipeg Board of Trade, the barley crop of that province will be 2,000,000 bushels. Most of that shipped to Ontario from the province graded as No. 1 weighs 49 to 53½ pounds to the bushel, while the best of Ontario barley weighs only 44 to 49 pounds to the bushel.

During the week ending Nov. 3 Chicago received 5,843 carloads of grain. The following are the roads over which it arrived and the number of cars brought in by each: The Burlington, 1,313; Rock Island, 726; Alton, 301; Illinois Central, 991; Northwestern, 1,088; Wabash, 405; Chicago & Eastern Illinois, 109; Milwaukee, 713; Wis.

consin Central, 4; Chicago, St. Paul & Kansas City, 72; Chicago, Sante Fe & California, 121.

The visible supply of grain on Oct. 27 was 33,476,649 bushels of wheat, 11,164,921 bushels of corn, 8,237,646 bushels of oats, 1,377,213 bushels of rye, and 1,647,835 bushels of barley.

Last year the Canadian Pacific had 1,600 cars in Manitoba, and as there was a very large crop to move there was a wheat blockade. This year they have 3,000 in the provinces, but the crop is light.

A gentleman was complaining on 'Change that he had invested a large sum of money and lost it all. A friend asked him whether he had been a "bull" or a "bear," to which he replied, "neither; I was a jackass."

A short time ago the price of wheat was twenty-two cents less at Fargo, Dak., than at Duluth or Minneapolis, while the total expense of putting Fargo wheat on the markets of those cities is only about 12½ cents.

It is estimated that the corn that will arrive at and pass through Chicago this year, on its way to market, will fill 3,000,000 cars, and would require 50,000 locomotives, if hauled at once, and the train would reach around the globe.

In the recent issue of *Puck* there is an illustration in which "Old Hutch" has his ear nailed to the door of the City Hall, and the minions of the law are distributing his cornered wheat among the poor. *Puck* is as often silly, as witty.

During the week ending Oct. 26 there was exported from the five principal ports on the Atlantic 117,826 bushels of wheat, against 99,966 bushels the preceding week, and 91,181 barrels of flour, against 158,071 barrels the previous week.

In Georgia they raise 125 bushels as an average crop of peanuts, and use them extensively for fattening hogs. The hogs eat the vines as well as the nuts. An acre of peanuts is estimated to furnish four times as much hog food as an acre of corn.

The strength of the wheat market at Duluth has been accounted for by the fact that they have a milling demand of about 250 cars a day, and the receipts only exceed the shipments by about 200 cars a day, leaving a demand for an extra fifty cars per day unsupplied.

The American public will be overjoyed to learn that "Old Hutch" has lost 35,000 bushels of wheat by the sinking of a schooner on one of the Great Lakes. Any tears that are hereafter shed for "Old Hutch" are liable to be of the crocodile order—*Baltimore Herald*.

On Nov. 1 the Indianapolis elevators contained 414,042 bushels of wheat, against 257,550 bushels the same date last year; 3,000 bushels of corn, against 65,666 last year; 91,793 bushels of oats, against 205,500, and 5,024 bushels of rye, against 4,800 bushels for the same date last year.

Recently the people of Aberdeen, Dak., were treated to a novel scene in the way of wheat transportation. A train of ten wagons loaded with about 1,000 bushels of wheat was drawn into the city by a traction engine. The grain averaged about fifteen bushels per acre and was sold for \$1.20.

A new kind of building blocks has been patented in Italy which are made of corn cobs. The cobs are pressed into forms similar to bricks, and held together by wire. A good soaking in tar makes them waterproof. They are very hard and strong, and weigh about one-third as much as a hollow brick.

A man of Tellula, Ill., has a field of corn which he claims should be awarded the first prize for giving the greatest yield per acre of any field in the state. He has gathered twenty acres and it has averaged 112 bushels to the acre. The maximum yield per acre is 120 bushels and the minimum 112 bushels per acre. It was planted very early—April 15 to 19 inclusive—plowed five times, and boys were hired to pull out the suckers and the weeds.

They have a species of wheat in this state, which is truly quite a novelty. It weighs more to the measured bushel than any grain brought to this market, and it is said to bleed just like a human being, when cut. It does not grow so rapidly or yield as well as most grains, but it is much more expensive. It swells so much when bound that the strongest binding twine is quickly broken. The required process of thrashing and cleaning is very different from that commonly used, and before it can be ground into flour it must be thoroughly dried. "Mr. Wheat" makes photographs in Rockford.



## WATERWAYS

Navigation on the Illinois & Michigan Canal officially closes Nov. 15, and after that if boats wish to run they can do so at owner's risk.

The survey for the proposed ship canal from this city to the Mississippi River has been completed from Joliet to Mount Forest, a distance of twenty-one miles.

The large number of bids received for the construction of the Sault Ste. Marie Canal were to be opened the 10th inst. Particulars have not yet been made known.

Prof. Pickering, of the Harvard College Observatory, makes the rather broad guess that the so called "canals" of Mars are areas of vegetation, possibly immense cultivated tracts. It is easier to guess than to demonstrate.

Since the new canalization of the River Main up to the city of Frankfurt, in Germany, the business of both the canal and the city has greatly increased, and it is said that the results have surpassed the most sanguine expectations.

It is probable that the first ship railway of the world will be built in Canada, for a contract for the construction of a ship railway from the Bay of Fundy to Bale Verte, Gulf of St. Lawrence, has been settled. It will cost about \$5,000,000.

The schooner H. W. Sage, which was sunk in the St. Clair Canal Oct. 19 by a collision with a propeller, was allowed to remain there and interfere with commerce several days, much to the displeasure of vessel owners, who were warned to be very careful in passing.

Recently the question as to who should pay for the unloading of the wet wheat aboard the Pensaukee was referred to an adjuster at Buffalo. This is the first time the question has come up in the lake marine, and if the parties are not satisfied with the decision of the adjuster, they will arbitrate.

During the winter \$300,000 is to be expended in improving the Hay Lake channel in the St. Mary River. The work has been subdivided into three distinct classes, and the contract for excavating and building a dyke in the Middle Neebish has been let to C. F. & H. F. Dunbar of Buffalo, who bid \$1.88 and \$1.89.

The Chicago Board of Marine Underwriters met recently and adopted the following schedule of trip rates on grain. From Chicago to ports on Lake Michigan, 60 cents, net; to ports on Lake Superior, \$1.26; Lake Huron, Sarnia and Detroit River, 95 cents; Georgian Bay and Lake Erie, \$1.15; Lake Ontario and Ogdensburg, \$1.40; Montreal, \$3.00.

Recently a trial trip was made of a new steam yacht propelled by wheels located in the bottom, instead of the stern, or at the sides of the boat. The motion of the side and stern wheels agitate the water so much that the surfaces of the canal are dislodged. All previous attempts to overcome this difficulty have failed, and some claim that, while the new propeller may be far ahead of all others, it will not accomplish the desired object.

Night traffic was first permitted on the Suez Canal in March, 1887, and since then about 800 vessels have passed through by the aid of electric lights. Of these, 500 have hired the lighting plant as they entered the canal of one of the supply companies. The rest carried their own plants. These companies put the machinery for producing the light on the vessel as it enters the canal, and remove it at the other end, and take care of the lights, for \$50 per passage.

A bill has been introduced in the Vermont legislature entitled, "An act to incorporate the Maritime Company of Nicaragua." The bill is substantially the same as that passed by the United States Senate and pigeon-holed by a committee of the House of Representatives. It is thought the legislature will grant the charter and that the subscription books will be opened for the sale of stock soon. It would take about six years to finish it, and would cost from \$56,000,000 to \$75,000,000.

The deep harbor general committee, in which Colorado, Wyoming, Utah, New Mexico, Nebraska, Kansas, Iowa, Missouri, Arkansas and Texas were represented, met last month at Dallas, Texas, and formulated a bill for an appropriation of \$10,000,000, for the passage of which they resolved to work faithfully and earnestly until accomplished. The chairman of the committee claims that a harbor on the northwest coast of Texas would shorten the access of Portland, Oregon, to the entire commerce of the Atlantic Ocean 700 miles over the route to New York, and, of course, all the intermediate country.

Of all the streams of North America used for commercial traffic, the Lower St. Lawrence is probably the most difficult to navigate. It is almost filled with rocks, sandbars, reefs and islands, and besides these the seamen have fogs, currents, tides, ice and very cold weather part of the time to contend with. A compass cannot be depended upon, for the magnetic attraction of the shores is very strong, and the difficulties thereby are greatly increased. Some boats spend more time sailing up the St. Lawrence than many of our ocean steamers do in crossing the Atlantic. It frequently takes eight or nine days to sail from Bic up to Quebec, a distance of 140 miles, but they can only sail five hours at a time, and that during the flood.

However, with all these difficulties, a great many vessels, and some of them ocean steamers, are enabled by a good system of lighting and able pilots to navigate this stream at least six months of every year.

About 1800 years ago the Emperor Nero planned to build a canal across the Isthmus of Corinth, and it is now being constructed by a French company. It will be about four miles long, twenty-seven feet deep and one hundred and thirty-one feet wide, and ships will be able to pass through at the rate of six miles an hour. It will cost about \$6,000,000.

DeLesseps and his son are traveling from town to town urging the French people to subscribe for stock of the Panama canal company, and 800,000 of the 2,000,000 bonds issued under the recent lottery scheme have been sold on the condition that the subscribers shall not be liable unless the entire amount is sold. It is very uncertain when the canal will be completed, but the work has progressed much better than was generally supposed, and there is said to be no reason why it should not be completed in two or three years.

The building of a new canal has been proposed in England, to be known as the Great Western Ship Canal, and to extend from a point near Bridgewater harbor, on the Bristol Channel, across the southwestern part of England to a harbor on the English Channel, near Exmouth. It will be 62 miles long, 21 feet deep, 36 feet wide at the bottom, and 125 feet wide at the top. It will be a sea-level canal, and get most of its water supply from that source. It would bring the coal fields of South Wales nearer London, and probably develop other industries on the western coast. The cost is estimated at \$15,000,000.

A canal boat elevator was recently completed at Les Fontinettes, France, by which boats of 300 tons and less can pass from one canal to the other—a change of level of forty-three feet—in three minutes, whereas before it took two hours to pass the locks. The elevator consists of two reservoirs; each are 130 feet long, 19 feet wide and 7 feet deep, and when full of water weigh 800 pounds. Each reservoir, or lock chamber as they are called, is poised upon a piston which works in the cylinder of a hydraulic press. The water columns of the two cylinders are connected by valves, and when these are open the lock chambers play the part of scale pans, and go down or up as the amount of water in them is increased or diminished.

The falling off in the business of the steamboat companies of the Mississippi valley, during the last twenty-five years, is probably greater than the decrease of any other business. Before the war the wharf at St. Louis was not near large enough to accommodate the river traffic, and it was not an unusual thing to see four or five boats laying alongside of each other, while now you can easily count on your fingers the few boats that come and go. In 1860 there were fifty-nine steamboats plying between St. Louis and Council Bluffs, Ia., and other points along the river, while now there are only three, and none of them go as far up the river as Kansas City. The competition of the railroads was too great, and the steamboat companies have gradually dropped out of existence.

During the last 100 years a great many canals have been built, and yet how many of them are numbered with the things that were. At this rate how many of them will be in existence 4,000 years hence? How many are in existence now that were built 4,000 years ago? One at least, and that is the Bahr Jossuf Canal, built by Joseph, son of Jacob. It ran along the Nile for a distance of 250 miles, and then turned west through a narrow pass and entered a district that was not visited by the annual overflow of the Nile which is so necessary to vegetation in Egypt. It is supposed that this canal was built for other purposes besides that of irrigation. However, it still fulfills this office, and the district is annually overflowed by the high water from the Nile, and the soil is fertilized and kept in a state of constant productiveness.

About the middle of last month there was a very serious break in the Cornwall Canal, and part of the bed and embankment of the canal was washed away. It seems that it was caused by small leaks being allowed to run too long. A large force was immediately put to work repairing the break, and as they were working night and day it was thought that it would be ready for navigation in about ten days; but on the 19th a break in one of the dams used to carry the water away from the canal break caused a delay of four or five days. On the 28th another break occurred in the canal not far from the first one, and a large part of the embankment gave way. A few days after the first break had been repaired, the new bank commenced sinking and continued to do so for several days, and now experienced contractors say that the work has been so bungled that it will have to be demolished and rebuilt. It would take three or four weeks to do that, and the canal would have to be closed for the season. Merchants and shippers have suffered an irreparable loss, and Montreal merchants alone will lose \$2,000,000. At Kingston there were seven propellers and four schooners loaded with grain, and unable to discharge their cargoes. The United States government offered the transportation companies leave to store the grain any place they desired across the line. The prospects are that the canal will not be opened for navigation again this season. The Canadian government has ordered a full telephone system to be established on the Cornwall and Williamsburg Canals by which all the locks of each canal will be connected.

## THE LAW.

### Buying Wheat.

When a man sells grain and nothing is said about who shall pay for weighing it, the seller must pay for it. The obligation to ascertain the amount he has sold rests upon the seller. It is a matter that may be very easily settled when the sale is made, by stipulating who shall pay for the weighing.—*Ohio Farmer.*

### New York Elevator Law Valid.

The test case (People vs. Annan et al.) brought to determine whether or not the McEvoy Elevator Law is constitutional, has been passed upon by the general term of the New York Supreme Court, which has decided in favor of the constitutionality of the law. The decision of the court is based upon that of the Supreme Court of the United States, in the case of Munn vs. Illinois.

### Measure of Damages—Business Profits.

In the case of Todd et al. vs. Minneapolis & St. Louis Railway Company, decided recently by the Supreme Court of Minnesota, it appeared that the plaintiffs used to buy wheat at a warehouse owned by them on a line of the defendants' railway, manufacture the same into flour at their mill, and sell the flour at the warehouse. They brought suit against the company to recover damages for interruption to their business caused by the obstruction of a street leading to their place by the cars and trains of the company. The court ruled out as incompetent in estimating plaintiffs' damages evidence of the diminution of the profits of their business, simply including the manufacture of flour. Such evidence, the court said, embraced too many elements of uncertainty to form a basis for estimating damages.

### Carrier as Warehouseman.

T. forwarded tin by a carrier, and the bill of lading provided that the carrier should not be liable for loss by pirates, robbers, thieves, etc., whether such perils or things arise from the negligence, default, or error of judgment of the pilot, master, mariners, engineers, stevedores, agents, or other persons in the service of the shipowner, and occur before, during the voyage, or at the port of discharge. The ship arrived on the 25th of November, and notice of arrival was given the consigners the same day; the goods were discharged on the 27th of November, but were not removed from the wharf until November 29, when it was discovered that a large part of the tin had been stolen. The wharf was the private wharf of the carrier, and it did not permit any removal of goods unless a receipt was given. T. sued for his loss, and the trial court decided: 1, that the carrier was liable as a carrier; 2, and, if not, it was liable as a warehouseman. The case—*Turbell v. Royal Exchange Shipping Company, Limited*—was carried, after a reversal by the general term, to the Court of Appeals of New York, where the plaintiff finally succeeded. Judge Andrews, in the opinion, said: "1. The company had ceased to be a carrier, as they had given notice of arrival, had discharged the goods, and there was sufficient time to remove them. 2. The tin was taken away from the wharf through the negligence of the carrier, who then was a warehouseman, and this negligence was so gross that it was liable for the loss. 3. The exemption of the carrier from loss by theft cannot be made available to relieve the carrier when he becomes a warehouseman."

### Railroad Commissioners—Power—Rates.

The Railroad Commissioners of Georgia, acting under the authority of the legislature of the state, established certain rates as reasonable and just rates of transportation. The Georgia Railroad & Banking Company brought suit against the commissioners, claiming that the rates established by them constituted an impairment of a contract between the state and the company, its charter, granted in 1833, having given it the exclusive right of transportation over the roads it might construct, provided its transportation charges did not exceed certain fixed rates. The state Supreme Court decided against the company, and its decision has now been affirmed by the Supreme Court of the United States. (*Georgia Railroad & Banking Company v. Railroad Commissioners of Georgia.*) The court says that the reserved right of a state to regulate charges by common carriers cannot be taken away except by contract expressed in clear and unequivocal language. The charter of the company, the court holds, simply provides that the company shall have the exclusive right to carry passengers and merchandise over its road so long as the maximum rates specified are not exceeded. It contains no stipulation, nor is any implied, as to any future action of the legislature. If the exclusive right remain undisturbed, there can be no just ground for complaint that other limitations than those expressed are placed upon the charges authorized. The court holds that it would require much clearer language than this to justify the court in holding that, notwithstanding the altered conditions of the country in the future, the legislature had contracted that the company might charge for transportation of persons and property over its line for all time up to the limits there designated.—*Bradstreet's.*



## Press Comment.

### A SNEER.

The New York Produce Exchange is once more agitating the time honored scheme of circulating its quotations through the country at an annual expense of \$50,000. If the Exchange would reform its inspection system its quotations would have value.—*Chicago Daily Business.*

### WHAT CONTROLS THE PRICE OF WHEAT.

A correspondent asks if the price of wheat at Liverpool controls the price of wheat in the United States. No! The price of wheat is controlled by the quantity that the farmers of the Northwest have to sell. The price at Dakota railroad stations controls the price at Liverpool to a far greater extent than the Liverpool price controls the Dakota price.—*Chicago Journal.*

### A LICK AT THE RAILROADS.

As the time approaches when lake and canal transportation will be no longer possible, the gentle railway foxes that have been so mild and lamb-like during the summer and fall, so much the friends of the northwestern farmers that they would carry grain almost without profit to themselves, begin showing their teeth and bristling their backs. News comes from Chicago that a material advance in grain rates from all points in Iowa, Minnesota and Dakota to Chicago has been agreed upon. The advance is from 1 to 2½ cents per 100 pounds. These rates the railroad officers say, are based upon the new 12½ cent rate from Minneapolis and St. Paul to Chicago. There will be no more transit rates made hereafter, and the 12½ cent rate from Minneapolis will apply on all grain whether it is milled in transit or not. They want a share in the general advance in the prices of farm products, and they know when and how to get it.—*Northwestern Farmer.*

### THE GRANGER VIEW.

It is very certain that so far as the producers of grain are concerned, in Missouri and other agricultural states, they do not favor the theory that traffic in futures belongs to the form of speculation which is "the life of commerce," and they cannot be made to believe that such trading tends to promote civilization and multiply the comforts of the masses. They know too well that it is a standing menace to their welfare, and that its profits come mainly from movements which are absolute conspiracies against them and their form of industry. Experience has taught them that when they have grain to sell they are practically at the mercy of these artificial traders, who never handle or see a pound of the product, but only gamble in imaginary goods, and contrive to regulate the price of the real article to suit their selfish and immoral purposes.—*Globe-Democrat.*

### SPECULATING ON THE BOARD OF TRADE.

An inquiring correspondent living in Topeka, Kan., writes *The Herald* for information touching the workings of the Board of Trade of this city, and how he can buy and sell grain. Other correspondents make similar inquiries, and all are evidently animated by the same idea, that, if one only knows how to make a deal, the pathway through the Board of Trade is an easy road to fortune. Certainly, from a distance, the prospect looks brilliant, and at the present moment, when a great operator has cornered the market, run the price of wheat up to a fabulous price and made several millions of dollars, nothing can be more enticing. And it all seems so easy! Why, everybody can make money that way if he only knows the ropes! Please tell us, say in unison a chorus of friends, what the ropes are; we also would like a few of those same easy dollars! Doubtless you would, and, as preliminary to the little sermon we propose to deliver, we will tell an anecdote of this same "Old Hutch" who has so recently been the hero of the hour and added so many thousands to his pile. A young man from the East once sought his advice, saying that he would like to speculate on the Board, and that he had \$40,000. "All right," said the grim and sententious merchant, "the boys want it."—*Chicago Herald.*

### A WORD OF CAUTION ABOUT CORN.

New corn will commence to move in a small way shortly, especially from the South. In fact, a car was received from Ohio last week. The corn was of fair quality, only damp, which threw it into the grade of rejected, and it sold for 44 cents. Had this corn been dry, it would probably have graded No. 2, and would then have commanded over 50 cents per bushel. Interior shippers will find it profitable to bear this in mind. With such an abundance of old corn available at reasonable figures, it is hardly good policy to ship new corn to market until it is perfectly dry. It is quite evident that new corn which is at all soft cannot be sold at a price that will give satisfaction to either the shipper or the commission merchant. Corn in this condition is not safe to carry, as it is liable to get out of order, which would render it practically unsalable. On the other hand, if new corn be allowed to dry thoroughly before sending to market, it will add several cents a bushel to its value, besides insuring its keeping in good order. Hence we desire to admonish interior dealers against being in too great a hurry in handling new corn. Give it plenty of time to dry out, and the result will be gratifying to all concerned. Of course, there are some

farmers who will be obliged to sell as quickly as possible in order to raise money, but it will pay them to ship their old corn first, if they have any. There is a good market for dry corn, and you can ship it along as fast as you like. But again we say, give the new corn a chance to dry.—*New York Produce Exchange Reporter.*

### THE ADVANCE IN WHEAT.

There is no use in attributing the advance in wheat solely to speculation. Hutchinson bought wheat because he knew, or thought he knew, that there was not enough to go around. The best proof of the correctness of his opinion must be found in the fact that the farmers and the millers are not willing to sell at the price which he made. Even on a sharp advance, the great millers of Minneapolis have not allowed wheat to come forward. The real fact is that every farmer in the West is encouraged to sow more wheat than ever before, for the high price amply compensates him for the reduction in the crop. The demand for seed next spring will be greater than ever before, and farmers to-day are husbanding the best wheat for seed purposes, knowing that No. 1 hard will be worth more for seed in the spring than people are ready to pay for milling in the winter.—*Wall Street News.*

### CORN IS KING.

It is prominently king this year. All expectations are more than fulfilled. The indications from the start have been that we would have an unusual corn crop. The wheat was not up to the average, and we need it. Business in the corn states is unusually good or indifferent, according as the corn crop is great or small. This year we beat the record. It is more vigorous than it has been in the past for some years. Heavy corn is frequently inclined to lay down. That is, when the yield is heavy, said a prominent dealer, a man of wide experience in crop judgment, corn will stand perfectly straight and hold itself in good condition until next March without being taken in. It will be a difficult matter to corner the corn market this year. There is too much of it. The recent wheat corner was developed from the fact that the surplus was small, and with this narrow margin the market will be whip-sawed all around between now and the new crop year. The signs of the times point that way.—*Indianapolis Corn Miller.*

### A GOOD WORD FOR OLD HUTCH.

No man ever yet ran a corner in the Chicago grain market without bringing down upon his head the denunciation of those who would have done precisely the same thing if they had possessed the requisite amount of money and courage. The men who whined the most loudly and begged the most pitifully for a partial release from their ruinous September contracts were the very ones who for years have been sneering at Old Hutch, ridiculing his weaknesses and trying to win his money. Despite all newspaper reports, no engineer of a successful corner was ever so lenient in letting his prisoners escape as Hutch has been. In settling with some of the short houses he sacrificed all the way from 10 to 40 cents a bushel rather than precipitate failures. If he had elected to insist on his pound of flesh in every instance, there would have been an avalanche of collapses that would have shaken the commercial interests of the country to their center. In his merciful course he was not a little influenced by the counsels of his eldest son, Charley Hutchinson, who, though a young man, is president of the Board of Trade, and a millionaire on his own account. Had the September wheat deal ended in an appeal to the authorities, as many asserted it would, the Board would have witnessed the unprecedented spectacle of its president passing judgment one way or the other, on his own father.—*Town Topics.*

### DELIVERIES OF GRAIN.

Mr. J. M. Whitman, acting as chairman, has sent the following circular to the receivers of grain in Chicago, which has been issued jointly by the following lines:

You are hereby notified that at a meeting of Chicago lines, held at the Rookery Building, Chicago, on Oct. 23, 1888, the following resolutions were adopted:

*Resolved,* That the lines here represented agree that deliveries of grain shall not be made from points on one road to regular grain elevators located in or near Chicago, upon other roads, except with the consent of the receiving and delivering lines, and the chairman is authorized to prepare and issue a joint circular in accordance therewith.

*Resolved,* That taking effect Nov. 10 the lines here represented will decline to make delivery of grain consigned or reordered to grain houses not provided with Board of Trade weighmasters, and that the chairman prepare a joint circular giving the grain receivers of Chicago the proper notice.

The resolutions quoted have been assented to by the companies named above, and will be enforced by them from the 10th day of November, 1888, as provided in said resolutions.

The Lake Shore Canal and Improvement Company has filed articles of incorporation with the Indiana Secretary of State. The object of the company is to promote the interests of East Chicago by having elevators and other branches of business that go to make up a progressive community established there. They will also construct and maintain canals. The capital stock is fixed at \$2,000,000.

## NEW YORK OFFICIAL GRADES OF GRAIN.

The Committee on Grain of the New York Produce Exchange has established the following official grades of winter grain:

### WINTER WHEAT.

Extra white winter wheat shall be bright, sound, dry, plump and well cleaned.

No. 1 white winter wheat shall be sound, dry and reasonably clean.

No. 2 white winter wheat shall consist of sound white winter wheat unfit to grade No. 1.

No. 3 white winter wheat shall consist of sound white winter wheat unfit to grade No. 2.

No. 1 red winter wheat shall be sound, dry, long-berried and well cleaned.

No. 2 red winter wheat shall be sound, dry and reasonably clean, weighing not less than 58½ lbs., Winchester standard, and shall not contain more than 10 per cent. white wheat.

No. 3 red winter wheat shall consist of sound winter wheat unfit to grade No. 2.

Extra red winter wheat shall be sound, dry and clean, weighing not less than 59½ lbs. to the measured bushel, Winchester standard.

No. 4 winter wheat shall include all sound winter wheat unfit to grade No. 3 red.

Mixed winter wheats shall be all white and red wheat mixed, and shall be equal to No. 2 red in all other respects.

[NOTE.—No. 1 red and No. 2 red wheats that grade steamer shall be graded steamer No. 2 red.]

### OATS.

Extra white oats shall be bright, sound, reasonably clean and free from other grain, weighing not less than 32 lbs. to the measured bushel.

No. 1 white oats shall be bright, sound and reasonably clean and free from other grain, weighing not less than 31 lbs. to the measured bushel.

No. 2 white oats shall be seven-eighths white, and equal to No. 2 oats in other respects, weighing not less than 28 lbs. to the measured bushel.

No. 3 white oats shall be mainly white, reasonably sound, reasonably clean and reasonably free from other grain, weighing not less than 25 lbs. to the measured bushel.

No. 1 oats shall be bright, sound, reasonably clean and free from other grain, weighing not less than 31 lbs. to the measured bushel.

No. 2 oats shall be reasonably sound, reasonably clean and reasonably free from other grain, weighing 28 lbs. and over to the measured bushel.

No. 3 oats—all merchantable oats unfit for any of the above grades, shall be graded No. 3.

Rejected oats—all oats damp, unsound, dirty or for any other cause unfit for No. 3, shall be graded rejected.

## To POULTRY RAISERS.

*The Complete Poultry Manual* is a neat little work which is well worth reading by those interested in poultry, or by boys or girls who want to turn an honest penny. The price is only 25 cents. Sent postpaid on receipt of price. Address

**MITCHELL BROS. CO.,**  
184 Dearborn Street, Chicago, Ill.

**TO THE DEAF:**—A person cured of Deafness and noises in the head of 23 years' standing by a simple remedy, will send a description of it FREE to any person who applies to

NICHOLSON, 177 MACDOUGALL ST., NEW YORK.

### WANTED.

A position in a grain elevator or merchant flour mill. Have had sixteen years' experience in buying grain, selling flour and bookkeeping in merchant mill, and one year as grain broker in Eastern markets. Good references. Can come at any time. Address

J. B. I., care AMERICAN ELEVATOR AND GRAIN TRADE, Chicago, Ill.

## For Sale.

### FOR SALE.

One Kurth's Double Cylinder Cockle Mill. New. Price at Montevideo \$150. Address

J. A. CASE, Montevideo, Minn.

### FOR SALE.

A good steam grain elevator with coal yard in connection, located in good grain district. Address

S. W. LITTLE & Co., Lincoln, Neb.

### FOR SALE.

Two Cutler Steam Grain Driers (largest size), very little used and in good condition. Suitable for drying either grain or meal. Address

IOWA ELEVATOR CO., Peoria, Ill.



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V. J. SAWYER. JOHN MACLEOD.

**A. J. SAWYER & CO.,**

Duluth and Minneapolis, Minn.,

**SHIPPING**

AND

**Grain Commission.**
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**Grain Commission,**

Room 124 Produce Exchange,

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**THE SHERMAN BROS. CO., Limited,**

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**TRACK BUYERS OF WESTERN GRAIN,**

SHIPPERS TO THE WEST OF

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**Buckwheat Flour.**

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ORDERS FOR CARGOES AND CAR LOTS PROMPTLY FILLED.

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Liberal Advances made on Consignments.

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W. H. Norris, Cashier Western National Bank.

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CASH OR FUTURES,

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**P. B. & C. C. MILES,**
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Best market on earth for "off grade" grain. Correspondence invited.

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By a firm of young men, the Boston Agency for a good, reliable grain shipping house. References given. Address,

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Grain and Provisions for Future Delivery Bought and Sold on Margins. Liberal Advances on Consignments. We make a Specialty of Selling by Sample.

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Choice Yellow and White Corn, Mixed and White Oats, and good Red Winter Milling Wheat for sale in car lots to suit purchasers.

Grain loaded at my country elevators and shipped directly through to points in the East and Southeast.

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**Roller and Detachable  
CHAIN  
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DETACHABLE in every Link.  
Especially Designed for  
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Etc., Etc.**

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GRAIN, SEEDS,  
EAR CORN, MALT,  
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Also manufacturers of the Gregory Grain, Seed and Fruit Dryer; Meal and Flour Purifier.

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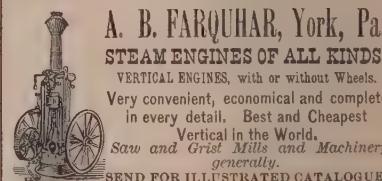
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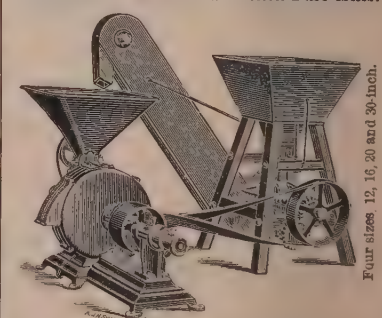
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**STEAM ENGINES OF ALL KINDS,**  
VERTICAL ENGINES, with or without Wheels.  
Very convenient, economical and complete  
in every detail. Best and Cheapest  
Vertical in the World.  
Saw and Grist Mills and Machinery  
generally.



**WALDRON & SPROUT'S French Burr Mills.**



Either with or without Ear Corn Crusher attached

**THESE MILLS HAVE NO EQUAL.**

Write for discounts, and catalogue giving full description. Address, mentioning this paper.

**WALDRON & SPROUT, Muncy, Pa.**  
Manufacturers of French Burr Mills, Ear Corn Crushers and Hay Tools.

IN view of the extended demand for our improved forms of Roofing and Siding for covering Elevators, Warehouses and many of the larger and heavier class of buildings, we have thought appropriate to group together a few of the salient features of our goods for the convenience of readers and customers. The fact is generally understood that in buildings of this kind the walls have a tendency to settle very materially, from their great weight, within a few months after the building is constructed. To obviate this difficulty we manufacture a special form known as "Elevator Sheets." These sheets are made in our regular widths, 24 1/2 to 25 inches, but only 32 inches long, our Patent Edge Corrugation stiffening them, so that nailing at the sides is not necessary, one inch at end being lapped, and the row of nails along the lower edge of each sheet is driven about one inch above the upper edge of those immediately below. The sheets are thus enabled to slide and accommodate themselves to the settling and compacting of the elevator walls, which prevents all buckling and drawing of the nails.

Figure 1 of this circular gives a good idea of the appearance of an elevator, mill or warehouse, being covered with our special form of Elevator Sheets, and is a correct representation in a general way of a large class of buildings for which we have thus furnished covering material. There is also shown the application of our curved sheets for the deck roof of the ventilator part.

Figure 2 shows our Patent Raised Edge Corrugations used in a combination of Elevator sheets, which gives a handsome paneled appearance, as well as adding strength to the work on which it is placed. The whole construction forms a very pleasing architectural effect, with which no plain sheets can at all compare. The most satisfactory evidence, however, of our great success in this line of construction is to be found in the large number of prominent elevator, grain and warehouse firms we have supplied with this material in all parts of the country.



FIG. 2.

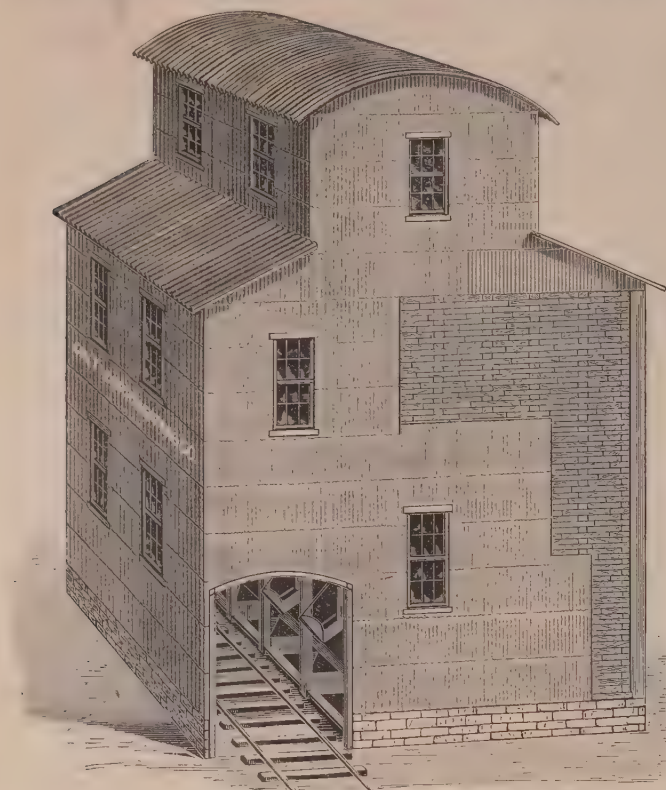
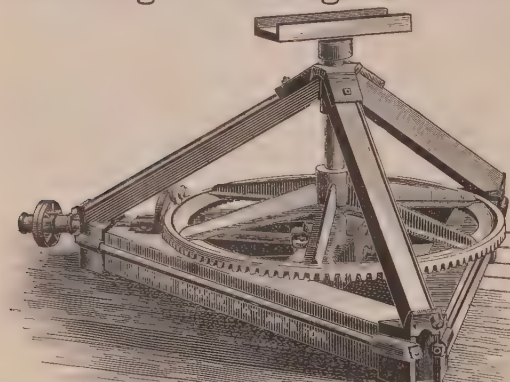


FIG. 1.

The CINCINNATI CORRUGATING CO., Office and Factory, Eggleston Av., above 6th St., Cincinnati, O.

The Triangle Frame Single AND Double Geared Horse Powers



**Strongest and Best**

Manufactured and for Sale by

**J. L. OWENS  
& CO.,**

DARTMOUTH and SUPERIOR  
AVES. S. E.,  
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Send for Circular and Prices.

**THE LOTZ PATENT  
GRAIN SHOVELING  
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FOR UNLOADING CARS.

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SOLE MANUFACTURERS FOR THE UNITED STATES

Send for descriptive circular.



Kemp's Double Cam Hay Press given away if it will not fill demands of my circulars.

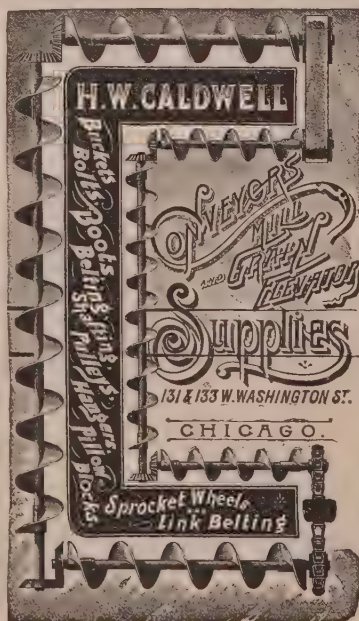
JAMES KEMP, Kempton, Ill.

**SUBSCRIBE FOR THE  
American Elevator and Grain Trade**

\$1.00 PER YEAR.

ADDRESS:

MITCHELL BROS. CO., - CHICAGO.



**THE McCORMICK  
FLEXIBLE  
GRAIN SPOUT**

FOR  
TRIMMING CARS.

PATENTED:  
July 6, 1878,  
March 18, 1879.

With this Spout you can load a car without shoveling, and it is the best Spout for general use in the market. Will work well in any kind of an Elevator, and is designed expressly for loading where there is but little fall from bin.

Send for Prices.

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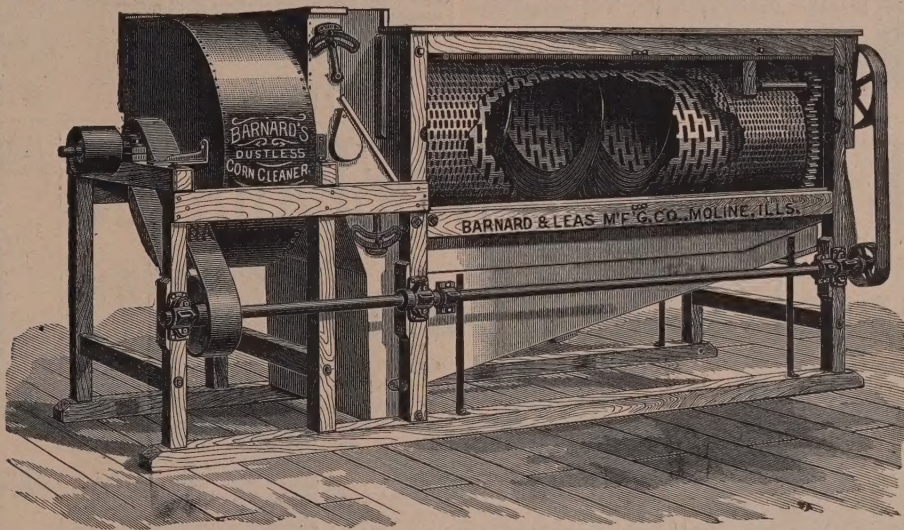
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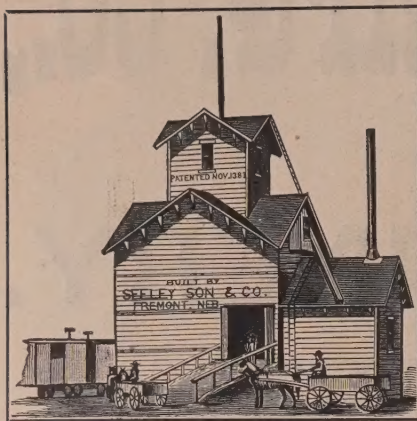


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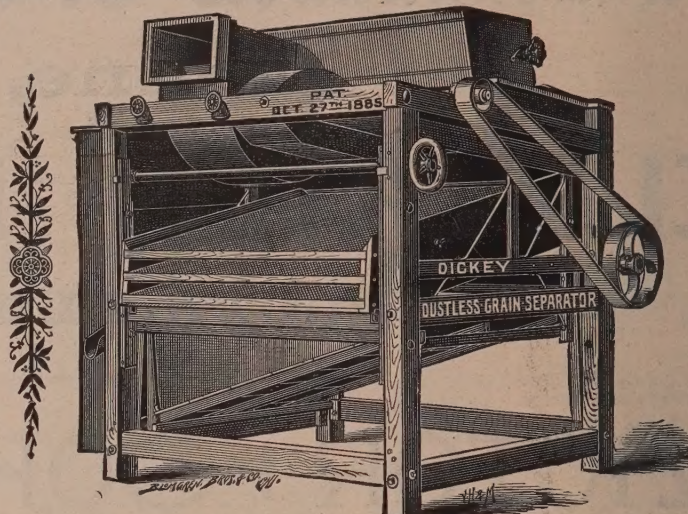
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WE CLAIM FOR IT SUPERIORITY

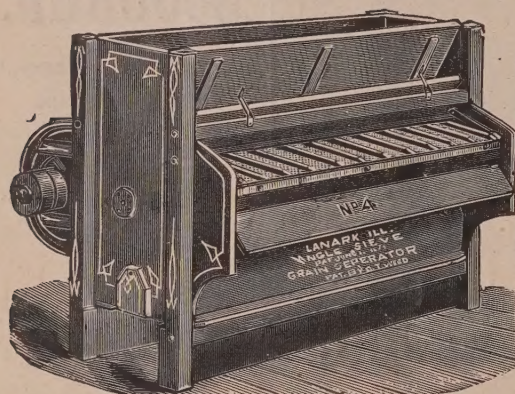
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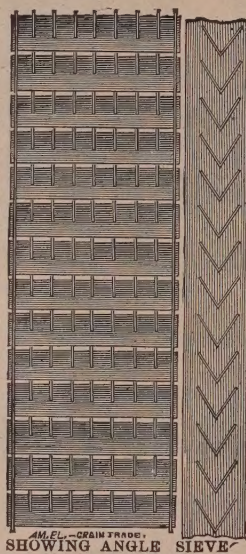


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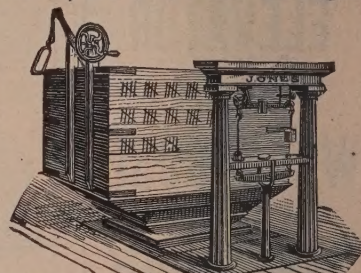
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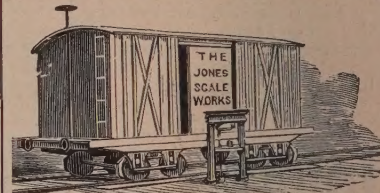


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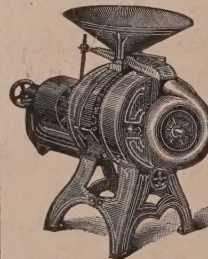
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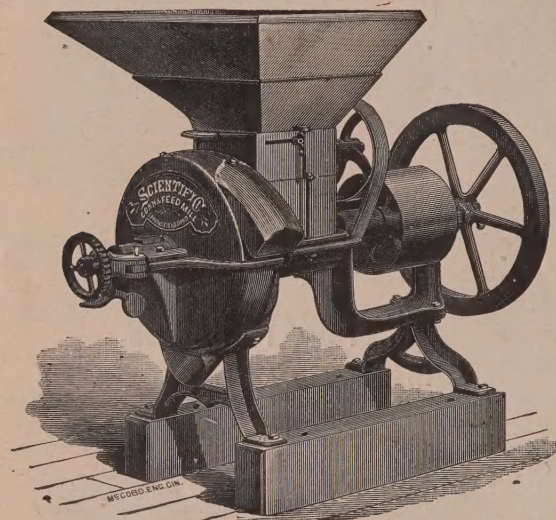
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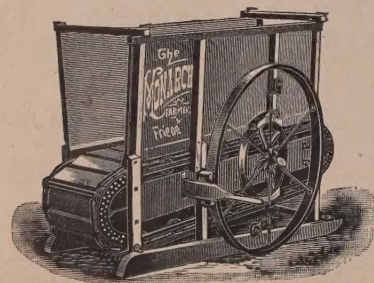
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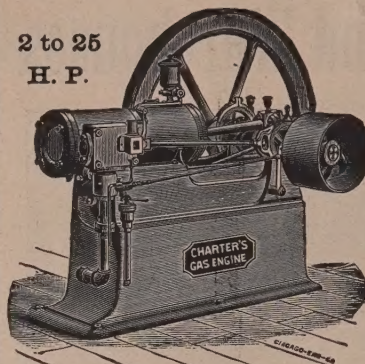
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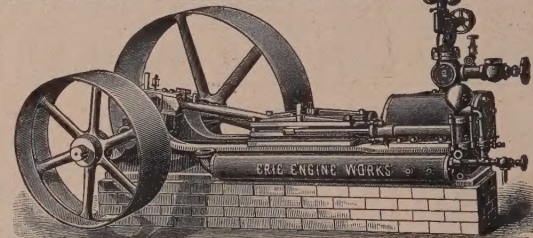
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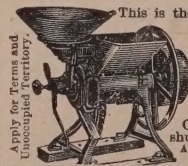
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